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OPHTHALMOSCOPE

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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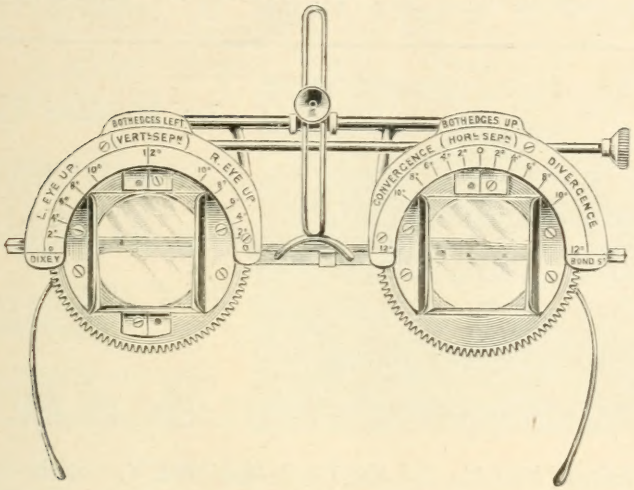

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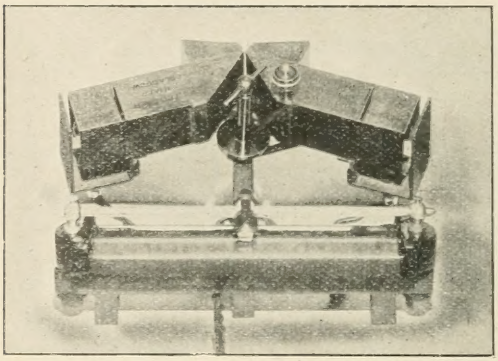

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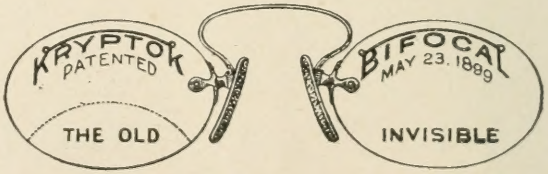

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ORIGINAL COMMUNICATIONS.

ON A CASE OF EXTREME HYPERPHORIA.

BY

ERNEST THOMSON, M.A., M.D.,

SURGEON TO THE GLASGOW EYE INFIRMARY.

The case which I am about to relate occurred in my practice some ten years ago. It interested me very greatly at the time, but owing to an error of judgment in operating on the tendon of the superior rectus, as the result of which the sharp point of a pair of Stevens' scissors penetrated the eyeball and necessitated stoppage of the operation, I had for years no courage to say anything about the matter. But confession is good for the soul!

Annie G., domestic servant, aged about 20 years, was sent to me by Dr. Robert Jardine, on November 13th, 1896, complaining of severe pain in the head and eyes for five weeks. Dr. Jardine stated that she had a goitre and some cardiac palpitation.

On examination there were no ocular signs of Graves' disease. V.R. $\frac{4}{6}$, V.L. $\frac{4}{5}$, low H. astig., fundi normal. Corrected V.A. $= \frac{4}{4}$ with either eye. On examination of the muscle balance it at once became apparent that the patient was the unhappy possessor of a very high degree of hyperphoria, uncomplicated by any appreciable amount of lateral deviation. I formed the conclusion then, and I adhere to it now, that the patient's whole trouble, as regards headache, pain in the eyes, and general nervous symptoms, depended upon this hyperphoria, and I do not think the facts were sufficiently reckoned with by the physicians under whose care she subsequently came.

At the time, being much interested in Stevens' work, I made a painstaking study of the condition, and came to the conclusion that, in spite of a pure vertical error which varied from 3° of left hyperphoria up to as much as 9° or 10° (measured on tangent scale), the patient usually had a true hyperphoria and not a hypertropia; that is to say, she had binocular single vision under favourable circumstances, although doubtless, from her account of occasional diplopia since childhood, and resulting accidents, such as pricking her finger when sewing, the balance was very easily upset. To prove this, or, at any rate, to prove that approximate parallelism of the visual axes existed under normal circumstances, I had some instantaneous photographs taken. These show very well (1) the anxious expression of the face, (2) the over-action of the occipito-frontalis on the right side, (3) the contrast between the appearance of the eyes when fixing binocu-

larly (fig. 1) and when fixing monocularly, *i.e.*, immediately after removal of a screen from before the left eye (fig. 2). The marked upward deviation of this eye is very noticeable.

Further, careful tests repeatedly made with a red glass before one eye, proved that the patient was able actually to see the separation of the false from the true image, which took place a moment after the red glass was placed before one eye. A red glass, that is to say, did not reveal a pre-existing diplopia,

FIG. 1.

but caused sufficient difference between the retinal images to convert the tendency to vertical deviation (hyperphoria) into actual deviation. The tests with Maddox rod, for the actual amount of deviation, were made again and again. Sometimes the upward deviation of the right eye exceeded the downward deviation of the left, at other times the opposite was the case. The smallest deviation recorded was 3°, and the greatest 10°. On account of the severity of the headaches, which were most severe over the left eyebrow, the patient was advised to go into a general hospital. She was admitted to the wards of Sir William Gairdner, in the Glasgow Western Infirmary, on December 21st, 1896, and came under the more immediate care of one of the assistant physicians. To the latter I communicated what I had ascertained about the eye condition.

From an inspection of the ward journal, which I have recently made through the courtesy of Sir Thomas M'Call Anderson, it is apparent that the case was treated with a distinct bias in favour of Graves' disease. The patient was kept in the infirmary until February 26th, 1897, and treated with belladonna, antypyrin, and the ice cap, all with a view of controlling the headaches. Not one word appears in the journal with reference to my communication on the ocular condition, so that to the general physician who scoffs at the specialist as being too special, it may fairly be retorted in a case like this that he sometimes errs in being himself too general. On February 5th there appears in the journal a note by Sir William Gairdner himself, in which, in

FIG. 2.

very polite, but quite decided language, the theory of Graves' disease is entirely upset, and in which the conclusion reached —to judge by the language in which the note is couched—is that the diagnosis is quite obscure.

The patient was then sent to a convalescent home. She returned to me on March 22nd, 1897, suffering so severely from the headache that she pressed for operation.

I decided to operate on the left superior rectus, intending to do a very limited tenotomy quite close to the insertion, using

a pair of Stevens' scissors which, by the way, are uncomfortably sharp in the points. One point punctured the sclera, and a small bead of vitreous presented, before the tendon was divided, but after it was on the hook. The operation was stopped and the patient put to bed.

Fortunately there was no untoward result as regards the eye, and also fortunately, the result of the abortive operation was *a cure of the headaches for five or six months.* Whether this was due to stretching of the muscle and tendon, or to suggestion, I am unable to say, but it was very extraordinary, seeing that practically nothing had been done.

I believe A. G. eventually was married, but her subsequent history is unknown to me.

ANTE-PARTUM OPHTHALMIA.

Two additional cases.

BY

ROSA FORD, M.B. (LOND.),

CLINICAL ASSISTANT TO THE ROYAL EYE HOSPITAL, SOUTHWARK, LONDON.

I am indebted to Dr. Robert Boxall for permission to publish the following two cases of ante-partum ophthalmia, which occurred in the York Road Lying-in Hospital, London, in the course of last year.

Case I. Mrs. M., primipara, age 29. Admitted to hospital on September 19, 1906, at 5.30 a.m., labour having begun four hours before. The membranes ruptured spontaneously at 8 a.m. The liquor amnii was turbid, and greenish in colour. A female child was born at 8.10 a.m., 1st vertex presentation. Weight, 4 lbs. 11½ ozs.; length, 18 in. At 8.20 a.m. a second bag of membranes was artificially ruptured. Liquor amnii discoloured and turbid. Five minutes later a second female child was born, presenting by a foot. Weight, 4 lbs. 15 ozs.; length, 18½ in. At 8.35 a.m. two placentæ, joined by the chorion, were expelled. At 8.40 a.m. the first child was noticed to "snuffle" and slight yellow discharge was seen in the right eye. Credéd. 10 a.m.: Lids a little swollen. On September 20, 30 hours after birth, when I saw the child (by kind permission of the House Surgeon), there was considerable redness and swelling of the lids, and yellow serous discharge. Both corneæ were hazy and there was some infiltration in the lower part of the left cornea. On December 19, when I again saw the child, all signs of inflammation had disappeared, but large opacities were present on both corneæ.

There was no other inflammation of the child at birth. The mother had been examined on August 17, and the cervix and vagina were then noted as normal. She had suffered from "whites" for six months previous to labour, and this discharge had become yellow two days before labour. Six examinations were made after admission. No douche was used. Labour was at full term. The second child's eyes never became affected.

Case II. Mrs. H., multipara 2; age 31. Admitted to hospital on September 24, 1906, at 10 a.m., labour having begun nine hours before. Membranes artificially ruptured at 1.15 a.m. Delivery of a male child at 2.15 a.m., 1st vertex presentation. Weight, 6 lbs. 12½ ozs.; length, 19½ in. A normal placenta expelled at 3.35 a.m. Child's eyes suspicious at birth, the upper lids entirely overlapping the lower ones. Credéd. Next day, much inflammation of upper lids. Silver nitrate, 10 per cent. solution, used. On September 30, "sight slightly dim"—mother and child removed to St. George's Hospital, as eyes were not improving. Labour was at full term. There was some obstruction due to seaming of the vagina; scar tissue divided to permit delivery. Forceps possibly used in previous delivery, five years before. Six examinations during labour. No douche before labour noted. Puerperal discharge unusually copious.

Comments.—In both these cases of ophthalmia inflammation was present at birth. In each case labour was comparatively short—7 hours and 10¼ hours respectively—so that infection must have reached the eyes before labour began. In each case, also, the inflammation was in an early stage, so that infection must have occurred within the last week of pregnancy. Since the membranes ruptured—ten minutes and one hour respectively before delivery—the micro-organism had apparently penetrated the unbroken membranes. These cases, then, are exactly parallel to that published by me in THE OPHTHALMOSCOPE, October, 1906, p. 557, when I suggested that infection before, but, still very near the onset of labour, might be explained by the physiological expansion of the cervix which often takes place a few days before labour. Haussmann (*Die Bindehautinfection der Neugeborenen*, Stuttgart, 1882, p. 60) made the same suggestion, and thought that by this means a purulent vaginal secretion might be brought against "the inner layer of the chorion," either through involuntary movements of the parts, or by the examining finger. In Case I, there had been an examination, but too long before labour (one month) for it to be likely that this played any part in the origin of the infection.

In cases in which the membranes remain unruptured until shortly before birth, infection of the child's eyes can be supposed to take place in only three ways, *viz.*: (1) by passage of the micro-

organism from the walls of the uterus or, possibly in rare cases, directly from the maternal circulation into the placental circulation and thus into the liquor amnii; (2) through the membranes, which by reason of some injury permit the passage of microbes; and (3) through the undamaged membranes, in the last two methods the infective agent being a vaginal secretion.

In Case I. it is an argument against infection through the placental circulation, that the second twin, equally exposed to infection by this method, remained free from ophthalmia. In favour of infection through the membranes, from a vaginal secretion, is the fact that the infant whose bag of membranes lay directly over the cervix was affected, while the other, at a safe distance, escaped. There was nothing in the history of the case to suggest the possibility of injury to the membranes, so that we are obliged to believe that infection did take place through uninjured membranes.

Summary.—These two cases and the parallel one referred to above, all tend to strengthen the conclusion arrived at by Mr. Sydney Stephenson and myself (*see* THE OPHTHALMOSCOPE, April, 1906, p. 214. Conclusion 3), namely, that in the majority of cases of ante-partum ophthalmia (55·5 per cent.), apart from a possibility of some slight injury to the membranes, infection must be assumed to have taken place through the uninjured membranes. The early stage of the ophthalmia in many of the cases may be explained by the expansion of the cervix during the last few days of pregnancy, thus allowing the vaginal secretion to reach the ovum.

DIVERGENT STRABISMUS AND ITS TREATMENT BY WEBSTER FOX'S OPERATION.

BY

T. K. HAMILTON, M.D. (Univ. Dub.), F.R.C.S.I.

ADELAIDE, SOUTH AUSTRALIA.

The treatment of a divergent strabismus which has become constant may be summed up in the one word "operation." There is no difference of opinion amongst ophthalmic surgeons on this point. But when the *modus operandi* comes to be considered the numerous methods which have been adopted from time to time by individual operators suggest, what will be only too readily admitted by all, namely, that success does not by any means always attend most of the procedures recommended. Up to quite recently the experience that I have had, drawn from a large number of cases upon which

I have operated during the past fifteen years, has demonstrated to me that failure to cure this form of squint is of not infrequent occurrence. Operation is undertaken in most cases more for cosmetic effect than in any hope of improving the visual power of the squinting eye or even of restoring binocular vision. Taking this fact into consideration, failure to cure is even more disappointing, and, if I may put it so, damaging to the surgeon's reputation than if results less demonstrative to the patient are aimed at. The truth of this statement is often painfully forced upon the operator, for the average patient and his friends consider disfigurement generally more than visual utility in estimating the benefits which the operation procures. Human vanity is partly accountable for this rather low estimate, and removal of deformity the strong incentive which leads the subject to submit to operation at all. But there is another obvious reason and it is this: in many cases of constant divergent strabismus the affected eye has never been of any use for visual purposes to its owner. He has gone through life with practically one visual organ only, and is sometimes unconscious even of the fact. He is quite content with what he has and he neither expects, nor possibly wishes for, any more. After all, it is well that the surgeon in undertaking an operation on these cases has only one simple issue, *viz.*, removal of disfigurement, to consider, for had he to face the possibility of diplopia as a sequel to the operation, he would probably hesitate before advising its performance, for then the much to be desired cosmetic improvement would be gained perhaps at the expense of serious visual embarrassment, which would go a long way towards neutralizing the other benefits obtained.

The operation most frequently done by me in the past was the counterpart of that usually performed in convergent strabismus of say 1mm. or 2mm. and upwards (Hirschberg's standard), *viz.*: division of the external rectus and a strong advancement, including the capsule of Tenon, of the internal rectus. This theoretically in divergent cases should be the correct procedure, but in practice the result has often proved to be as unsuccessful for this form of strabismus as it is the reverse for the internal variety. The reasons for this are not far to seek. The stimulus which convergence affords in the latter is wanting in the former, and, moreover, a pronouncedly amblyopic eye in divergence is not one to improve the situation. The want of success and the difficulty which have usually confronted us in securing success by even the most carefully planned and cleverly executed operation in these cases have led me to hail with delight the introduction of

any procedure by which we can achieve satisfactory and tolerably constant good results. This the operation recommended by Dr. L. Webster Fox, of Philadelphia, has, in my opinion, accomplished. During the past eighteen months or so I have performed this operation upon seven patients with uniform success. The *technique* of the operation I need not go into, as it is described in detail in Dr. Fox's original paper read before the American Medical Association, June, 1900, and it is now to be found in this author's *Diseases of the Eye*, published in 1904, pp. 534-536.* I have followed his recommendations contained therein, and I am more than pleased with the good results obtained.

The following is a brief record of the seven cases which, taken together, form a somewhat interesting group :—

Case No. I.—Divergent Strabismus (Right), Muscular and Accommodative Asthenopia, Headaches, etc.

June 11, 1900.—T. A., male, aged 18 years. For the past few months has had headaches after using the eyes for near vision. They commence in the frontal and extend to the occipital region. He uses his eyes a great deal at night. The right eye diverges about 1.50 mm. Right. V.$=\frac{6}{6}$???? L.$=\frac{6}{6}$? and J.1 (both) at 22 cm. Under atropine 0.75D. $\frac{6}{6}$ and J.1 (both). 0.50° Hyperphoria. Add. 12°. Abd. normal. Sursumduction R. 1°; L. 1°. April 6, 1903.—Right still diverges about 2 mm. He can converge up to 1 cm. from the tip of the nose, or 6 cm. from the outer canthus. The right ceases to converge then and turns outwards. Both external recti divided and capsule stretched. April 8.—To exercise the converging muscles frequently each day. April 13.—Eyes quite straight.

Case No. II.—Divergent Strabismus, Amblyopia (Right), and Anisometropia.

September 6th, 1902.—C.P. male, aged 14 years. V. of right eye has never been good. It diverges about 5 mm., and he does not fix with this eye. Right V.$=\frac{2}{6}\frac{5}{0}\frac{0}{0}$ Left$=\frac{6}{6}$.

Sept. 10.—Under atropine, right retinoscopy shows -5.00D.⊃-4.00D. ax. 180, but no glass improves the vision. Left. C. +1.00D. $\frac{6}{6}$ and J.1. Fundi normal. Media clear.

Jan. 27, 1903.—Right still diverges as before. Both external recti divided and capsules stretched, elliptical section of conjunctiva and capsule over the internal recti and sutures inserted. March 20.—Eyes now straight.

*Fox's operation, as described in his *Diseases of the Eye* (1904), consists of three steps :—1. Tenotomy of both external recti, together with stretching of the conjunctiva and Tenon's capsule; 2. The removal of an elliptical piece of conjunctiva and sub-conjunctival tissue from over the internal rectus of one eye or of both; and 3. The suturing of the incision just mentioned.—EDITORS.

Case No. III.—Divergent Strabismus, Amblyopia (Right), and Central Choroiditis.

April 16, 1900.—K.J., female, aged 17 years. Has been having frequent headaches for some time past, principally frontal. The vision of the right eye has never been good, and she has worn glasses for seven years. No history of injury to the right eye. She is very melancholy and depressed at times. R. V.= $\frac{6}{60}$ J. 18 at 20 cm. L. V.= $\frac{6}{6}$ J. 1 at 22 cm. Divergence of right eye about 2 mm. It is most noticeable when the patient is tired or not well. She fixes pretty well up to 5 cm., and well up to 6 cm. from the eyes. April 18. Under atropine, right retinoscopy shows 1.50 D. but no glass improves the vision. A small pigment spot in the macular region and some atrophic spots between the disc and the macula, also one patch of pigment along the course of and covering a vessel from about 3 mm. in the lower part of the field. Media clear. Left. C. 1.50 D. — 0.75 D. ax. 90° $\frac{6}{6}$. Fundus normal, Media clear.

April 24, 1903.—External recti divided and capsules stretched. October 1.—Eyes now quite straight, and the mental depression, which seems to have been caused partly by the disfigurement of the diverging eye, has disappeared. She still suffers from the headaches, which, apparently, depend mainly on indigestion.

Case No. IV.—Divergent Strabismus and Amblyopia (Left) and Asthenopia.

April 15, 1896.—R.A., male, aged 14 years. The left eye has turned outwards from birth. Right V. $\frac{6}{12}$??? L. $\frac{6}{12}$??? R. Ret. emm. L.—C. + 1.00 ⊂ + 75D. ax. 90° Divergence of about 3 mm. of left eye.

May 25, 1903.—Has been complaining of eyes aching again lately. External recti divided and capsules stretched, and elliptical piece of conjunctiva and capsule taken out over interni and sutures inserted. November 23, 1904.—Eyes quite straight, and all aching of eyes disappeared. V. R. $\frac{6}{12}$? L. $\frac{6}{6}$??? J. 1 both at 22 cm.

Case No. V.—Divergent Strabismus and Corneal Opacity (Right).

June 19, 1903.—K.A., male, aged 16 years of age. His vision has never been good, especially of right eye, and small nebulæ of both cornea are present left from trachoma which he had when a child. V. R. $\frac{5}{60}$ L. V. $\frac{6}{12}$? } J. 12 at 14 cm. } J. 1. 22 cm. Divergence of right eye; can fix up to 10 c.m. Eyes small and sunken. C Atropia. Right C.+2.00 $\frac{6}{60}$. Left C.– 1.00 D. ⊂ + 2.50 D. ax. 60° $\frac{6}{6}$? ? ?.

June 26.—External recti divided and capsules stretched and elliptical piece taken out over interni. Sutures as usual. Exercise of interni frequently each day. July 7. – Ordered :– Right + 1.00 D. ; Left – 1.00D ⊂ + 2.50 D.ax. 60°. Eyes quite straight. September 26.—Right C. 1.00 D $\frac{6}{4\frac{2}{3}}$? ?. Left, as before. February 27, 1904.—Slight convergence of right. Vision better and eyes much more comfortable.

Case No. VI.—Divergent Strabismus and Corneal Opacity (Right).

July 20, 1903.—M.F., male, aged 17 years. Had an ulcer on his right cornea when an infant and this eye has diverged about 5 mm. ever since. Right V. $\frac{1}{6\ 0}$. Left $\frac{6}{6}$.

Under atropine, right retinoscopy shows + 2.25 D ax. 90°, but no glass improves the vision. External recti divided and capsules stretched and elliptical piece taken out over interni and sutures as usual. Exercise for interni frequently. November 23, 1904.—Still 1 mm. of divergence. V. R. $\frac{5\ 0}{6\ 6}$ Fixes up to 11 c.m. Then eye tends to go outwards and he has sometimes diplopia. Muscles all act normally.

Case No. VII.—Divergent Strabismus and Anisometropia (Left).

October 29, 1904.—W.H., male, aged 45 years. For six months past (he says) vision of left eye failing. V. R. $\frac{6}{6}$???? L. $\frac{1}{6\ 0}$. L. diverges 6 mm. Pupils, both somewhat eccentric, act under homatropine and cocaine. Right retinoscopy shows a small amount of myopia, but no glass improves the vision. Media clear ; fundus normal. Left retinoscopy shows 12.00 D. With this glass V. $\frac{6}{2\ 4}$. Media clear. Fundus, a complete annular staphyloma of disc.

October 31.—External recti divided, capsules stretched, and elliptical piece removed of conjunctiva and capsule over the interni with sutures inserted as before. Nov. 21.—Eyes quite straight.

Remarks.—The operation performed in the above cases has some advantages peculiar to itself. One is that it can be adapted to all cases of divergent strabismus, according to the requirements of each individual case, and that almost irrespective of age, *e.g.*, in cases Nos. I, III, and IV, the external recti only have been dealt with, and in the remainder the full operation has been done. Fox lays down the following rule for the guidance of the surgeon in choosing which procedure to adopt.—When the defect is not more than two or three millimetres he performs an external tenotomy and stretches Tenon's capsule in both eyes without taking out the elliptical section over the interni, especially in those cases in which the eyes can be held by the patient at fixed convergence at

ten inches. He thus makes the amount of the divergence and the converging power which the patient still possesses his principal guides in determining whether the full operation or only a portion of it be performed. In practice this rule is approximately correct and is a fairly safe one to follow.

It will be observed, however, that in cases Nos. V and VI the full operation was performed. In both of these cases there was some opacity of the cornea, which seems to me to be another reason for dealing with the interni as well as the externi. For, if the opacity be situated on a certain spot of the pupillary area of the cornea, nothing but the full operation will suffice to keep the eye straight, and even with the fullest effect which operative measures can effect, the tendency, in some cases, will be for some divergence to return. No. VI illustrates this point. The patient finds he can see best with the affected eye by looking outwards, hence the strong inducement to do so, and thus to perpetuate the diverging condition, in spite of all measures taken to prevent it. Again, if, in addition, he gets diplopia when converging beyond a certain point, which this patient says he does, then in trying to suppress the double image, divergence is again encouraged. In No. V the correction of the existing hypermetropia after the full operation did not improve the visual acuity much, if at all, at first, but in three months afterwards the acuity had risen from $\frac{6}{60}$ to $\frac{6}{24}$. There is now 1 mm of convergence in the originally diverging eye and the eyes are much more comfortable. In No. VI no glass improved the vision before the operation and no glasses were ordered. Now, some eighteen months afterwards, the vision has improved from $\frac{1}{60}$ to $\frac{50}{60}$ although 1 mm. of divergence still remains, and the patient can fix up to 10 cm. The visual improvement such as has taken place in these two cases is considered by some to be a strong argument in favour of the *amblyopia ex anopsiâ* theory, but, as Swanzy contends, it is tolerably certain that where such improvement does take place, the defective vision has been due to retinal asthenopia rather than to amblyopia. This latter condition, then, under the favourable conditions of restored parallelism of the visual axes and of having the existing ametropia corrected with the proper glasses, allows of improvement of the condition of the retina and consequent raising of the visual acuity. The results of operation in Case No. VII are very striking and extremely satisfactory. The patient, a midde-aged man, vision only $\frac{1}{60}$, 6 or 7 mm. of divergence, a high degree of anisometropia and eccentric pupils. To get the eyes of such a patient absolutely

straight is the strongest evidence of the efficiency of this method of operation for the relief of divergent strabismus.

Fox does not claim originality for this operation. He admits that the procedure is similar in many details to that of DeWecker (*Ann. d'oculistique*, 1883, p. 188), Knapp (*Trans. Amer. Ophthal. Society*, 1886), Critchett, and Todd (the inventor of the "tendon tucker"). But he is sure that its simplicity has much to recommend it, and that the results obtained in his hands make it preferable to any one of the procedures recommended by the above-mentioned surgeons. Lastly, it will be noted that six out of the seven patients in this group are under 20 years of age, the ages of the six ranging from 14 to 18 years. This again emphasizes the fact that age limit must not necessarily be taken into consideration in this operation, certainly not as much as in some of the older operations, the originators of some of which deprecate operative interference in very young subjects.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

TWO CASES OF UNILATERAL FUNCTIONAL MYDRIASIS.

BY

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HON. OPHTHALMIC SURGEON TO THE COVENTRY AND WARWICKSHIRE HOSPITAL; LATE ASSISTANT SURGEON BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.

I was recently consulted by a lady, aged 19 years, a governess in perfect health but of a hysterical temperament, who was much disturbed about her vision.

She stated that on several occasions her right pupil had become fully dilated and her vision on that side dim. The condition lasted for a short time and then passed off. At the time that the pupil became dilated she was unable to read with the affected eye. Careful examination failed to discover any abnormality in either eye, except a little hyperopia. This was estimated under atropine to amount to 1 D. I was unable to see the dilated pupil myself, but was assured by a trained nurse that the pupil dilated, until hardly any iris could be seen.

I regarded the condition as entirely functional and ordered *plus* 1 D. glasses for reading and all near work. The symptom has not recurred. About a month later, the lady with whom my first patient lived, contracted a slight attack of pneumococcal

ophthalmia. When this first came on, her right pupil became for a short time widely dilated, with complete paralysis of accommodation, in the affected eye.

The condition lasted for only a short time, and with the cure of the ophthalmia did not recur.

My first patient was highly neurotic, but my second, her mistress, was the very reverse, an *ex*-sister of a large London hospital, who fully realised the functional nature of the symptom.

I regard the second case as one of unconscious imitation or of auto-suggestion; the ophthalmia having concentrated the attention upon the eyes.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ORBITAL CELLULITIS.

(1) Snellen, H., Jr.—Cases of abscessus orbitæ and tumor orbitæ. (Gevallen van abcessus en tumor orbitæ. *Ned.-Tijdschr v. Geneeskunde*, 1905, I, 180.

(2) Gendron.—A case of phlegmon of the orbit. (Un cas de phlegmon de l'orbite.) *L'Ophtalmologie Provinciale*, février, 1905.

(3) De Lapersonne (Gendron).—Phlegmon of the orbit and papillary atrophy. (Phlegmon de l'orbite et atrophie papillaire.) *L'Ophtalmologie Provinciale*, T. I, p. 161, février, 1905.

(4) Antonelli.—Orbital cellulitis and purulent dacryoadenitis following post-influenzal otitis media. (Cellulite orbitaire et dacryoadénite purulente suites d'otite moyenne post-grippale.) *Recueil d'Ophtalmologie*, mai, 1905.

(5) Kaiser, Fr.—A case of orbital phlegmon with formation of abscesses in the nasal, malar and temporal regions, and affection of the nasal cavity and of the pharynx. (Ueber einen Fall von Orbitalphlegmone mit Abscessbildung in der Nasen-, Wangen-, und Schläfengegend und mit Betheiligung der Nasenhöhle und des Rachens.) v. Graefe's *Archiv f. Ophthalmologie* 61, 3, 26 September, 1905.

(6) Lacaussade.—A note on a case of phlegmon of the eyelids consecutive to a septic puncture of the wrist. Note sur un cas de phlegmon des paupières consécutif à une piqûre septique du poignet. *L'Ophtalmologie Provinciale*, T. II. p. 109, octobre, 1905.

(7) Lafon, Chas.—Orbital cellulitis consecutive to acute frontal sinus empyema. (Cellulite orbitaire consécutive à un empyème aigu du sinus frontal.) *La Clinique ophtalmologique*, 10 mars, 1906.

(8) Bartels, Martin.—The anatomical basis for blindness arising from orbital suppuration. (Ueber die anatomische Grundlage der Erblindung bei Orbitalphlegmone.) *Arch. f. Augenheilkunde*, November, 1906.

(1) A case of orbital tumor, simulating abscess, by protrusion of the eyeball and violent symptoms of inflammation. Death followed within a fortnight after exenteration of the orbit. *Post-mortem* examination revealed an intra-cranial sarcoma, of the size of a child's fist. In another case, pus was found on making an incision, although a tumor of the orbit was present. G. F. ROCHAT.

(2) **Gendron's** patient was attacked by severe pain in the right side of the head the morning after exposure to a very cold wind, and developed in succession paralysis of the external muscles of the right eye (commencing in the rectus externus and going on gradually to complete external ophthalmoplegia), œdema of the lids and conjunctiva, proptosis, optic neuritis, total loss of vision, and corneal ulceration. The drainage of an abscess in the apex of the orbit led to a subsidence of the symptoms, and even to the restoration of a certain amount of vision after an interval of nine months, although a large central scotoma still remained. Gendron thinks that in this case the chill set up acute sphenoidal sinusitis, with perhaps participation of the posterior ethmoidal cells, which was the starting point of the phlegmon of the deep parts of the orbit, and that the loss of sight was due to a descending neuritis caused by inflammation in the neighbourhood of the optic foramen. R. J. COULTER.

(3) A report by Gendron of a clinical lecture by **Lapersonne** on a case of phlegmon of the orbit starting from a furuncle and complicated by suppuration of the lacrymal gland, necrosis of the superior orbital margin and optic atrophy. The causation of the disease and of the complications and the differential diagnosis from orbital thrombo-phlebitis are discussed at length. R. J. COULTER.

(4) Three weeks after an attack of influenza, **Antonelli's** patient—a baby of eleven months—developed a right-sided

purulent otitis media. About two days later a doughy œdema, which was neither painful, tender, nor fluctuating, appeared in the right preauricular region and spread forwards to the temple and eyelids. Eight days later the baby became feverish, the œdema became more pronounced and distinct fluctuation could be elicited on palpation of the congested lid over the region of the lachrymal gland. An incision into this part let out some caseous material suggestive of necrotic gland tissue, and this was followed by a thick greenish yellow pus, which had the characteristic odour of purulent discharge from the ear. A probe could be introduced through the incision into the orbit for five centimetres. A limited amount of bare bone could be felt along the external wall of the orbit. Drainage of the cavity and attention to the ear were followed by gradual and complete recovery. From the facts that there was no evidence of infection through the skin, that the most acute suppuration was found near the apex of the orbit, that the bare bone was found behind the lachrymal fossa, and that the pus had the same odour (no bacteriological examination was made) as the ear discharge, Antonelli regards the case as one of secondary infection from the ear. The course which the infection took was an extracranial one and was indicated by the cold œdema which, starting in the preauricular parotid region, spread forward to the temporal region, and then to the orbit and lids. The line of infection would pass through the Glaserian fissure and the petrotympanal suture (both of which are of considerable dimensions in infants), then to the pterygo-maxillary fossa and through the spheno-maxillary fissure into the apex of the orbit, and from there along the external wall of the orbit to the lachrymal fossa. **Antonelli** is of opinion that extracranial infection could also take place along the lymphatics of the Eustachian tube, along the perivascular spaces of the spheno-palatine vessels through the spheno-palatine canal (which is relatively large in the infant) through the pterygo-palatine fossa and spheno-maxillary fissure into the orbit. Such a course of infection would be indicated where there were signs of para-pharyngeal phlegmon or nasal discharge —conditions which were absent in the author's case. J. JAMESON EVANS.

(5) **Kaiser** reports on a case of orbital phlegmon, which offers some interesting peculiarities, especially the formation of abscesses in the neighbouring regions. He discusses in full the various venous anastomoses of the parts concerned, which seem to underlie its propagation. Referring the reader to the original with regard to these particulars, it might perhaps be useful to mention here a few diagnostic points which Kaiser gathers from a careful perusal of the fairly extensive literature on the

subject. The most common error which may occur is its being mistaken for orbital periostitis, which v. Graefe considered one of the most frequent affections of the orbit. The points of distinction are :—protrusion of the eyeball straight to the front in phlegmon, sideways in periostitis, the protrusion being of rapid onset in the first and slow in the second case; swelling and tenderness to the touch of the orbital walls in periostitis, especially of the osseous rim, rapid and intensive participation of the eyelids in phlegmon, while they remain normal at least for a considerable time in periostitis. The distinction between orbital cellulitis and thrombophlebitis of the orbital veins is difficult and uncertain. Berlin thinks that thrombosis cannot be assumed unless either collateral affection of the sinuses or thrombosis of the veins of forehead or temples is present. Thiebaud draws a distinction between the two by maintaining that the mobility of the eyeball and vision remain unimpaired in thrombophlebitis as in contrast to phlegmon. But both conditions are so frequently met together that not too much importance must be attached to any point of dissimilarity. With regard to consecutive impairment of vision—which is the rule—this, if we put aside cases of affection of the cornea, iridochoroiditis, etc., is due to optic neuritis, optic atrophy, or the effect of increased orbital pressure, perhaps also to compression and thrombosis of the vessels of the optic nerves; also retinal hæmorrhage and retinal detachment are occasionally seen. Kaiser advocates energetic surgical treatment, consisting in early and extensive incision, even before fluctuation appears, for it is necessary to relieve the pressure even if no pus can be found.

R. GRUBER.

(6) **Lacaussade's** patient, a boy, 15 years old, was pricked in the wrist by a prickle of a plant known as the rest-harrow (*ononis spinosa*). This caused a furuncle, followed by lymphangitis of the arm, the neck, the cheek, and, finally, both eyelids on the same side. The author finds that although this plant is stated to be useful as a diuretic, the wounds with its prickles are believed by the country people in the neighbourhood of Nogent le Rotrou, where the patient lives, to be of an unhealthy nature.

(7) **Lafon** relates the case of a woman of 27 years who, after a cold in the head, first developed an acute empyema of the frontal sinus and then an orbital cellulitis. Incision at the fronto-nasal angle of the orbit revealed no actual pus, but the condition subsided thereafter. Examination of blood from the incision revealed staphylococci and pseudo-diphtheritic bacilli. Optic neuritis with reduction of vision to $\frac{1}{20}$ was present at the commencement. Vision rose to 1 after the subsidence of the cellulitis.

ERNEST THOMSON.

(8) The subject of **Bartel's** paper is a consideration of the anatomical and pathological *data* obtained in a case of thrombosis of the lateral sinus complicated by bilateral abscess of the temporo-sphenoidal lobe, bilateral thrombosis of the cavernous sinus, and bilateral orbital abscess. The contribution should be read in the original. It is not only of value, on account of the circumstance, that we have very few reports of this kind, but from the fact that, apart from etiology, there are many points of clinical interest, *e.g.* the absence at first of any papillitis, later on the presence of optical aphasia, and, the eyes excepted, the absence throughout of any motor or sensory disturbances. Briefly put, the examination of the contents of the right orbit—alone available for microscopic examination—tended to show, that there occurred first a thrombosis of the central vein, due to obstruction of the vasa vasorum, aided by the occlusion of a number of orbital veins and consequent venous stasis. The central artery became compressed and thrombosis followed in it. This obstruction of the afferent and efferent vessels led to a partial necrosis of the optic nerve. The former process was so slow that a collateral circulation could be established, so that no great changes could be seen in the fundus during life.

PERCIVAL J. HAY.

II.—DISEASES OF THE EYE AND EMPYEMATA OF THE NASAL ACCESSORY CAVITIES.

Gutmann, A.—Diseases of the eye in their relationship to empyemata of the nasal accessory cavities. (Beitrag zu den Erkrankungen des Auges in ihren Beziehungen zu den Nasen-Nebenhöhlenempyemen.) *Zeitschr. f. Augenheilk.*, Mai, 1906.

Gutmann in this paper deals with the eye affections which occasionally arise in the course of suppurations of the accessory sinuses, and which frequently are the first indications drawing attention to the nasal condition. He first deals with the frontal sinus, suppuration of which occasionally perforates into the orbit. This perforation always takes place at one of two points, one a spot at the inner and upper angle of the orbit, a little behind and below the fovea trochlearis, and a second point about ½ to 1 cm. behind the supraorbital notch. At these points there are large venous communications from the sinus to the ophthalmic and supraorbital veins respectively. The displacement of the eyeball in these cases will be down and out, and the orbital abscess will point at the inner end of the upper lid, between the inner canthus and the supraorbital notch.

Similar affections of the ethmoidal cells perforate the os planum into the orbit, and then the eyeball will be displaced almost directly outwards. The inner parts of both lids will be swollen, while the abscess will point in the region of the inner canthus. The sphenoidal cells are of great importance on account of the near relationship of the optic nerve in the optic foramen—and in this form one may have a pressure atrophy of the nerve, a neuritis or perineuritis giving more or less typical ophthalmoscopic pictures, and a further frequent symptom is exophthalmos, and, of course, thrombosis of the orbital veins.

The antrum very rarely perforates into the orbit, and then causes orbital cellulitis, exophthalmos, and neuroretinitis.

A. Levy.

III.—SYPHILITIC TARSITIS

Feilchenfeld, Hugo.—A case of syphilitic tarsitis. (Ein Fall von Tarsitis syphilitica.) *Arch. f. Augenheilk.*, Dezember, 1906.

Feilchenfeld's case showed diffuse thickening of the tarsus. The skin was freely movable over it. There was no pain. The appearance of the conjunctiva was normal. A wedge was excised, and examined microscopically. No spirochætæ were found. The whole of the tarsus was infiltrated with small round cells, and two places showed circumscribed areas of infiltration with cells having well stained nuclei. The lymphatics and blood vessels appeared to be increased in number.

Percival J. Hay.

IV.—DEFORMITIES OF THE SKULL.

(1) Patry.—On a clinical type characterised by optic neuritis and a cranial deformity. Sur un type clinique caractérisé par une névrite optique et une déformation cranienne.) *Ann. d'oculistique*, T. CXXXIII, p. 249, avril, 1905.

(2) Ambialet.—Orbits and cranial conformation; Extra-orbital ocular protrusions. (Orbites et conformations craniennes; Protrosions oculaires extraorbitaires.) *Ann. d'oculistique*, T. CXXXIV, p. 176, septembre, 1905.

(3) Ambialet.—Cranio-cerebral deformity. Troubles of the visual apparatus. Deformation cranio-cérébrale. Troubles de l'appareil visuel.) *Ann. d'oculistique*, T. CXXXIV, p. 321, novembre, 1905.

(4) **Patry.—Cornea with major axis vertical, and oxycephaly.** (Cornée à grande axe vertical et oxycéphalie.) *Ann. d'oculistique*, T. CXXXV, p. 314, avril, 1906.

(5) **Cohen, Curt.—A case of marked exophthalmus caused by a deformity of the skull due to rickets.** (Ein Fall von hochgrädigem Exophthalmus infolge rachitischer Schädelverbildung.) *Klin. Monatsbl. f. Augenheilkunde*, November-Dezember, 1906.

(1) See review of **Patry's** book on Oxycephaly, THE OPHTHALMOSCOPE, Vol. III., p. 526.

(2) **Ambialet** has carried out a series of measurements, the results of which he considers to justify the following conclusions: 1. The orbital arch is flatter in proportion as the cephalic index is higher, *i.e.*, as the head is rounder. 2. The orbital arch is flatter in females than in males. 3. Orbital asymmetry may occur alone or combined with inequalities in the facial or cranial bones. 4. The eyes are more prominent in brachycephalics than in mesocephalics. 5. The eyes are more prominent in proportion as their refraction is higher (*i.e.*, as they are more myopic or less hypometropic). 6. Anisoprotrusion of the eyes may occur alone, but is more commonly due to anisometropia or osseous asymmetry.

(3) **Ambialet** describes the changes produced in the cranium, meninges, brain, and visual apparatus by a deformity the opposite of oxycephaly (*Thurmschädel*), which is common in Languedoc, and was first described by Broca. This is caused, in normal children free from all pathological cerebral antecedents, by the pressure of a bandage which it is customary in that locality to bind tightly around the heads of new-born infants commencing with a turn passing just above the eyebrows and below the occiput, and continuing as far upwards as possible towards the parietal eminences. It is characterised by effacement of the frontal arches and eminences, depression of the entire vertex and displacement backwards and a little upwards of the parietal eminences, with at times narrowing of the base. As a rule in the specimens examined, there was thickening of the bones in the neighbourhood of the frontal and coronal sutures, and in some cases there were exostoses on their internal surface. The meninges were variously implicated, the dura being usually thickened and more or less adherent to the bone, particularly in the localities where the latter was thickened, while the pia was at times normal and at times intimately adherent to the cortex. Apart from marked deformities the brains were reduced in weight, the relation between the weights of the frontal and temporo-parietal lobes being practically normal, while the occipital lobes, although at times relatively large, were usually below the average weight.

The eyes were usually prominent. Although Ambialet has no particulars as to vision and refraction, he has not met with a single case of blindness, monocular or binocular, among 110 deformed subjects. He considers that this freedom from blindness, which in his opinion is due to the absence of meningitis of the base or in the region of the chiasma, shows that brains free from morbid predisposition can be exposed to pressure sufficient to interfere with their normal development, and to set up irritative localised meningitis of the convexity without any alteration of the visual centres or tracts resulting, and is evidence against the suggestion that the post-neuritic atrophy which occurs in oxycephaly is due to intra-cranial pressure, or changes in the cranial bones. R. J. COULTER.

(4) In **Patry's** patient, a youth aged 17, in addition to oxycephaly, both the corneæ were larger than normal, and had their vertical axes greater than the horizontal, the actual measurements being horizontal axes 12 mm. (mean 11-12 mm.), vertical axes, 12·5 mm. (mean 10-11·43 mm.). Apart from the peculiarities mentioned and a slight astigmatism, the eyes were normal, and with correction their vision was full. Patry states that the only other recorded case of inversion of the normal relation between the corneal axes, is one of Hirschberg's, which occurred in a patient with infantile glaucoma, and was also associated with megalocornea. He is of opinion that in his case the corneæ were congenitally abnormal, the oxycephaly being acquired, and that the occurrence of the two conditions in the same patient was a coincidence. R. J. COULTER

(5) A patient, aged 19, observed by **Cohen**, exhibited apart from other signs of rickets a deformity of the skull which in many ways resembled "tower-skull." But instead of the coronary suture being ossified as in tower-skull, the sutures of the skull were, on the contrary, abnormally patent. All the contents of the orbital cavities, which were very much flattened, were forced forward. The resulting exophthalmos, however, was partly concealed by an abundant covering of the eye-balls with skin. Impairment of the optic nerves, of frequent occurrence in ordinary tower-skull, was absent in this case. C. MARKUS.

V.—OCULAR AFFECTIONS IN TRYPANOSOMIASES.

Morax.—Ocular affections in the Trypanosomiases. (Les affections oculaires dans les Trypanosomiases.) *Ann. d'oculistique*, T. CXXXVI, p. 437, décembre, 1906.

Morax gives an account of the ocular manifestations which have been clinically observed in connection with the various forms

of trypanosomiasis occurring spontaneously or produced experimentally, *viz.* :—nagana or tse-tse disease, surra and mbori, souma, mal de Caderas, dourine, and human trypanosomiasis or sleeping sickness.

Blepharo-conjunctivitis with purulent secretion in which trypanosomes can easily be found by staining smears by the method of Giemsa or that of Marino, occurs in rabbits (in nagana, surra and dourine), in dogs (in nagana surra and Caderas' disease), and at times in horses (in dourine and Caderas' disease).

Corneal lesions are especially frequent, and take the form of interstitial keratitis. In dogs (in nagana and dourine), this causes complete blindness, the animals dying before the lesions have time to clear up, and is associated with a growth of the parasite in the interlamellar spaces. In goats (in nagana and dourine), the lesions clear up in much the same way as the lesions of interstitial keratitis do in human beings. Superficial corneal ulcerations may occur leading to secondary purulent infection with loss of the eye.

Iritis and iridocyclitis, with purulent exudation in the anterior chamber, sometimes accompany keratitis, but may be hidden by the corneal opacity. They have been observed in dogs (in nagana, dourine, surra, and Caderas' disease) and the presence of trypanosomes has been demonstrated in the aqueous, the iris, and the ciliary body. These lesions can retrogress in the horse (Caderas' disease).

In making microscopic examinations of the eyeballs of dogs infected with dourine or surra, cellular exudations in the vitreous, and small foci of infiltration in the retina and choroid have often been found. In a case of sleeping sickness in a woman, examined by E. Treacher Collins, there was an area of superficial atrophic choroiditis with pigmentary modifications in the macular region of each eye, but owing to the difficulty in excluding other causes, this cannot be definitely set down as due to the trypanosomiasis. The only symptom which has been recorded as occurring in human beings affected with trypanosomiasis is œdema of the lids, which has also been frequently noted in animals.

R. J. COULTER.

VI.—PERIPHERAL ECTASIA OF THE CORNEA.

(1) **Rupprecht, J.—Contribution to the pathological anatomy of peripheral ectasia of the cornea. (Pathologisch-anatomischer Beitrag zur Kenntniss der peripheren Hornhautektasie.)** *Klin. Monatsbl. f. Augenheilkunde*, Januar, 1907.

12 **Ischreyt, G.**—A case of peripheral ectasia of the cornea due to trachoma. (Ein Fall von peripherer Hornhautektasie infolge von Trachom.) *Ibid.*, Februar, 1907.

If a part of the cornea becomes thinned, a protrusion of this part will result. This is what happens in conical cornea in the centre, and in marginal ectasia in the periphery of the cornea. As to the cause of the thinning in the latter condition, two views are held; according to the one, which goes back to Fuchs, it is to be found in degenerative changes on the basis of an arcus senilis; according to the other view, in inflammatory or ulcerative processes. The first of these views is upheld in the paper of **Rupprecht**, the second in that of **Ischreyt**. Rupprecht's case was that of a man, aged 64, in whom, in the course of some years, and without pronounced symptoms of inflammation, an ectasia had developed at the upper margin of the cornea. This part was slightly vascularised and edged above and below by a grey opacity. The initial stage of the same condition was marked in the left eye by a vascularised arcus senilis. A supervening ulcus serpens occasioned the removal of the right eye, and the subsequent histological examination showed the bulging part to consist of granulation tissue covered by normal corneal epithelium. In this area Bowman's membrane was completely absent; Descemet's only partly so. The latter had evidently become torn in consequence of the tension to which it had been subjected. In Ischreyt's case the corneal condition was co-existent with and evidently caused by a severe trachomatous pannus. It follows that various affections leading to a weakening and thinning of the corneal tissue may eventually give rise to a peripheral ectasia. C. MARKUS.

VII.—EVACUATION OF THE AQUEOUS HUMOUR IN IRITIS.

zur Nedden.—On the therapeutical and diagnostic value of early puncture of the anterior chamber in iritis. (Ueber den therapeutischen und diagnostischen Wert der frühzeitigen Punktion der vorderen Kammer bei Iritis.) *Bericht der Ophthalmologischen Gesellschaft, Heidelberg*, 1906, p. 215.

zur Nedden points out that our knowledge of the ætiology of the infective diseases of the uveal tract has scarcely kept pace with the developments in modern bacteriology. The *technique* of investigation, however, is difficult. Two methods have been

employed: (1) the removal and examination of iris tissue; and (2) the bacteriological investigation of the patient's blood. The latter is suitable for few cases, and seems less likely to yield useful information than the former. Experimental inoculations with bits of iris tissue have been carried out by zur Nedden. But even when tubercle appeared to be the cause of the iritis, the implanted bits of iris generally disappeared without exciting reaction. This negative result was probably to be explained by the fact that the iritis had existed for a long period. In one instance alone did a positive result ensue in the shape of a severe tuberculous irido-choroiditis, which eventually led to metastasis and death of the animal.

Gourfein has drawn attention (*see* THE OPHTHALMOSCOPE, December, 1903, p. 223) to another method of investigating the ætiology of cases of iritis, namely, by examining the aqueous humour evacuated by puncturing the anterior chamber. Gourfein, in three cases of doubtful ætiology, produced tuberculous disease in animals by the inoculation of aqueous humour taken from the affected eyes. On the other hand, the inoculation of aqueous from a case of syphilitic iritis yielded a negative result. zur Nedden, following the example set by Gourfein, has inoculated the anterior chamber of rabbits with aqueous humour removed from several cases of iritis. In two of the cases a tuberculous iritis was produced in the inoculated eye. In five other cases the result of inoculation was negative. The first-named, however, were recent cases, while of the last-named, two, apparently tuberculous, were of long standing. The method, accordingly, is likely to give results only when the fluid is derived from recent cases. A point in favour of paracentesis, as compared with iridectomy, is that the former implies a simpler operation, and one likely to do more good than harm, even in cases of recent inflammation of the iris. In order to determine the influence of evacuating the aqueous humour in recent iritis, zur Nedden inoculated the anterior chamber of rabbits with a pseudo-diphtheritic bacillus isolated from the blood of a patient affected with sympathetic ophthalmitis, and in that way managed in twelve instances to set up severe plastic iritis. He found that in such cases treated by paracentesis of the chamber the inflammation lasted from eight to fourteen days, whereas in others not treated in that way the symptoms persisted from three to four weeks, or even longer. From these experiences zur Nedden concludes that paracentesis is good treatment in early iritis. The factors making for a favourable result are probably two in number: first, hyperæmia of the iris consequent on the escape of the aqueous humour; and secondly, the renewal of the aqueous and all that it implies. zur Nedden's views, reached

upon experimental grounds, have apparently been confirmed by the results of paracentesis performed in five cases of recent inflammation of the iris.

Apart from the therapeutic advantages of paracentesis, the operation is advantageous in leading to the recognition, not only of tuberculous iritis, but of syphilitic iritis also. The aqueous humour from such a case may be evacuated, smeared on cover-glasses, and stained in various ways, especially by the Giemsa plan. In one case of syphilitic iritis treated by this method, zur Nedden succeeded in finding a spirochæta morphologically indistinguishable from the spirochæta pallida of Schaudin and Hoffman. It is, therefore, probable that cases of specific iritis can be diagnosed by the bacteriological examination of the aqueous humour. The author concludes that if, in addition to the bacteriological examination of the blood, the fresh aqueous humour be investigated by means of smears, cultures, and animal inoculations, our knowledge as to the causation of iritis is likely to be furthered. S. S.

VIII.—TUBERCULIN.

Brückner, A.—Experiences with Koch's tuberculin. (Erfahrungen mit dem Kochschen Tuberculin. Alt-tuberculin und Tuberculin T. R.) *Arch. f. Augenheilk.*, Dezember, 1906.

Brückner has tried to arrive at an estimate of the diagnostic and therapeutic value of tuberculin in eye affections, and for that purpose has experimented on 35 patients. In the majority of those suspected of a tuberculous infection of the uveal tract, the reaction was positive, but Brückner insists that this does not mean that the ocular condition was tuberculous in nature. Not by any means! The positive general reaction only goes a certain way towards proving the tuberculous character of the lesion. Local appearances and the further course of the disease must be taken into consideration. The only certain proof is a local reaction in the diseased area. Such a reaction, however, is comparatively rare, and is sometimes of doubtful value when there is merely an increase in the ciliary injection. As regards the therapeutic value of tuberculin, Brückner does not consider his experience sufficient to warrant any conclusions. PERCIVAL J. HAY.

IX.—RETRO-BULBAR NEURITIS AFTER BURNS.

Lindenmeyer.—Neuritis retrobulbaris after burns of the skin. (Neuritis retrobulbaris nach Hautverbrennung.) *Klin. Montsbl. f. Augenheilkunde*, Juni, 1906.

A workman, aged 19 years, was seen by **Lindenmeyer** seven weeks after his arms and face had been burnt by the explosion of a lamp. His eyesight, which had begun to fail two or three weeks after the accident, was at the time of the examination reduced to fingers at one metre. It recovered in the course of treatment to 1/15 in the one and 1/35 in the other eye. There was an absolute central scotoma for white and colours, the discs showed slightly blurred edges and temporal pallor, and a few retinal hæmorrhages were also present. As other causes of retrobulbar neuritis could be excluded, Lindenmeyer classes his observation with similar cases in which burns, probably by way of producing toxic substances, had given rise to changes in the retina and optic nerves. C. MARKUS.

X.—THE REMOTE RESULTS OF THE SURGICAL TREATMENT OF HIGH MYOPIA.

Pause, G.—On the remote results of the operative treatment of high myopia. (Ueber Dauererfolge der operativen Behandlung der hochgrädigen Kurzsichtigkeit.) *Zeitschr. f. Augenh.*, Februar und März, 1906.

In this important paper **Pause** gives the ultimate history of many of the cases which the late Professor Pflüger published in his article "Suppression du Cristallin transparent" in 1899. The importance of the present paper lies in the fact that a considerable period of time has elapsed in all the cases cited since the last operative interference. The shortest interval since the last operation in any case cited is six years, and in the majority this interval amounts to at least 10 years. Of the 42 eyes Pflüger reported in 1899 only 24 could now be found and examined again, but these 24 cases are given in full detail in a model manner. The refraction, including the radii of curvature of the cornea, is given in each case, both before and after the operations, and again at the time of the investigation for the present paper, and the results are carefully analysed. The tables of visual acuity show how much the vision had improved since the operation, being on an average 2½ times as high now as they were before. In only one eye has the vision become much worse—and in this case the patient lost his central vision through an extensive choroiditis, while the vision in

the unoperated eye remained stationary; but, on the other hand two unoperated eyes were lost from this cause. In this series of cases no case of detachment of the retina occurred, thus going a long way to show that the operation cannot be accused of causing detachment. The improvement of vision is explained by a heightening of the retinal function as a result of the operation and has been elsewhere noted.

A comparison is then instituted between the condition of the unoperated and operated eyes, for Pflüger, as a rule, operated on one eye only and that generally the worse of the two, and the interesting result is found, that, where the operation was performed in children, say, from eight to twelve years of age, the axial elongation of the operated eye was always practically less than the unoperated one. The operation in these cases is therefore spoken of as prophylactic, for the necessity of wearing a convex lens is more than counterbalanced by the prevention, even if only to a small degree, of the results of axial elongation of the globe. In older people this effect was not so marked.

The necessity of taking accurate ophthalmometric readings in all cases is shown, if an accurate estimate of the refraction after operation is to be obtained. The higher the radius of curvature of the cornea, the lower must the total myopia be, if emmetropia is to be obtained after the operation.

Pflüger always operated by Fukala's method of discission, requiring generally three separate operations before a perfect result was obtained. On the other hand, others have reported good results by the method of linear extraction.

Some of the conclusions arrived at by Pause are that: (1) the operation in selected cases is not only justifiable but advisable; (2) the results are better the earlier the operation is done; (3) recent or old choroidal changes are not to be regarded as contra-indications, but by operation it may be possible to save central vision in a fair percentage of cases; and (4) the removal of the lens from highly myopic eyes does not entirely prevent axial elongation of the globe, although to some extent it does so.

A. Levy.

XI.—THE SPIROCHÆTA PALLIDA.

(1) Greeff, R. and Clausen, W.—Spirochætæ in experimental interstitial inflammation of the cornea. (Spirochætenbefund bei experimenteller interstitieller Hornhautentzundung.) *Bericht der Ophthalmologischen Gesellschaft, Heidelberg*, 1906, *p.* 314.

(2) **Róna, Samuel.—Experimental parenchymatous keratitis in rabbits with numerous spirochætæ following the inoculation of syphilitic material. (Experimentelle Keratitis parenchymatosa des Kaninchens mit massenhaften Spirochæten nach Implantation syphilitischen Materiales.)** *Pester med. chir. Presse*, 1907, 9, and *Woch. f. Ther. u. Hygiene des Auges*, April 11, 1907, p. 222.

(1) **Greeff** inoculated the eyes of apes and rabbits with syphilitic material. After the lapse of some weeks, a tongue-like opacity pushed its way from the edge into the substance of the cornea, the appearances closely resembling those of a commencing interstitial keratitis. In the more advanced cases spirochætæ could not be demonstrated, but considerable numbers were found in cases just commencing, extending far into the still transparent cornea, where they clustered thickly. The corneal opacity, Greeff surmises, is the outcome of the penetration of leucocytes into the substance of the cornea, where they attack and destroy the spirochætæ. Experiments prove that syphilis can be inoculated into the eyes of rabbits as well as into those of apes, the great difference being that in the former, generalisation of the virus does not occur as it does in man and in monkeys. The difference may, perhaps, be explained by a difference in leucocytic action in the several classes of animals.

While **Clausen** was conducting experiments with the spirochæta pallida, Bertarelli published the investigations he had made in the same direction. Bertarelli had minced up an excised primary chancre, mixed the fragments with physiological salt solution, and injected the emulsion thus prepared into the corneal substance. About fourteen days later, the cornea manifested appearances of lively inflammation. The cornea was then excised, cut into sections, and examined by Levaditi's plan, and found to contain numerous spirochætæ, especially on the borderland between healthy and inflamed tissue. It has been said in more than one quarter that the organisms found by Bertarelli merely represented the spirochætæ injected with the emulsion, a suggestion, however, negatived by Clausen's personal experiences. Clausen introduced tiny morsels of a syphilitic inguinal gland into the anterior chamber, and also rubbed finely minced gland substance into the corneal epithelium, first abraded. During the first few days after the inoculation there was a slight traumatic irritation. After about three weeks the eyes, whose corneal epithelium had been inoculated, showed an opacity at the upper edge of the cornea, not unlike that observed in interstitial keratitis due to hereditary syphilis, together with the simultaneous appearance of a deep-seated pannus. Some four weeks later, the upper third of the cornea was infiltrated. The eye was then

enucleated, and the cornea examined after staining by Levaditi's method (as modified by Hoffmann), with the consequence that many spirochætæ were found here and there in the cornea.

In the discussion that followed the demonstration of Greeff and Clausen's specimens, Römer and Leber took part, but their remarks dealt chiefly with trypanosomiasis. S. S.

(2) **Róna** inoculated eight rabbits in three series; the first three on September 22nd; three on September 26th; and three on January 4th, 1907. The eyes of the first group were removed after 51 days, those of the second group after 64 days. The third group was still under observation when the paper was read.

Clinically, an irido-cyclitis was found in one only of the extirpated eyes, just in that one in which, histologically, was a pronounced keratitis parenchymatosa with quantities of spirochætæ. In the cornea of the other eye, likewise, were found traces of keratitis parenchymatosa in the form of cell-groups, but no spirochætæ.

The eyes were treated by means of the original Levaditi silver-impregnation method. The cornea was cut parallel with the surface. The spirochætæ were found in the largest quantities in the cornea tissue above the lamina elastica posterior, and in some places indeed in immense quantities, often forming crossed files. Just in those places hardly a trace of inflammation was to be seen, while higher up in the tissue of the cornea, where pronounced inflammatory appearances existed, were to be found comparatively few spirochætæ.

The cornea was diseased in certain areas only, and showed spirochætæ in groups only. Together with the pronounced spirochætæ were found long, straight, scarcely perceptibly twisted forms in enormous quantities, the like of which Róna had never before seen in syphilitic tissue. No spirochætæ were found in the iris and choroid.

On the left eye of the rabbits inoculated with syphilis on January 4th, no characteristic changes were yet present. In the right eye dirt from the floor was inoculated; this eye was immediately lost and extirpated.

Discussion.—Adolf Havas remarked that it was known that syphilis could be inoculated into animals since one had been able to demonstrate spirochætæ in the tissue-changes at the sites of inoculation. Hänsel had first inoculated the eye of the rabbit. Spirochætæ could not be demonstrated in disintegrated syphilitic tissue, but were found, however, in large quantities in infiltrated tissue not yet disintegrated, as also in neighbouring normal tissue. S. S.

XII.—PARALYSIS FOLLOWING THE INTRA-SPINAL INJECTION OF STOVAINE.

Blanluet and Caron.—Paralysis of the sixth nerve after intra-spinal injection of stovaine. (Paralysie de la sixième paire après rachistovaïnisation.) *Ann. d'oculistique*, T. CXXXVII, p. 62, janvier, 1907.

Blanluet and **Caron** record a case of paralysis of the left external rectus following an intra-spinal injection of $\frac{1}{2}$ cc. of a 10 per cent. solution of stovain for the production of anæsthesia. Four days after the operation the patient complained of pains in the top of the back and the neck, which were accompanied on the following day by nausea and one attack of vomiting. The pains spread to the head in the course of two or three days, after which they gradually diminished, and had quite passed away at the end of a fortnight. Eight or ten days after the operation the patient developed diplopia, which was found to be due to paralysis of the left external rectus. At the end of six weeks the range of movement outwards of the left eye had improved from 15° to 30°, after which it appeared to remain stationary. The patient was found to have a *bruit-de-galop* and some albuminuria, and gave a history of a previous attack of the latter; but nothing else abnormal could be found, so the authors conclude that the paralysis was due to the injection. They have collected eleven similar recorded cases of ocular paralysis following intra-spinal injections of novocaine and stovaine, all, with one exception, unilateral, and suggest that the occurrence may be due to a selective toxic action of the drug (in which case the paralysis might be expected to be bilateral), to a hæmorrhage, or to a mild meningitis. There is no case recorded of a similar accident following an injection of cocain. R. J. COULTER.

XIII.—SUBCONJUNCTIVAL INJECTIONS OF AIR.

Terson père and J. Terson.—Subconjunctival injections of air in ocular therapeutics. (Les injections sous-conjunctivales d'air en thérapeutique oculaire.) *Ann. d'Oculistique*, T. CXXXVII, p. 103, février, 1907.

The **Tersons** have used subconjunctival injections of sterilised air in 38 cases of corneal ulceration, four of interstitial keratitis, two of sclerosing keratitis, two of iritis with hypopyon, and one of hypopyon following cataract extraction. In more than three-fourths of the corneal ulcers, 18 of which were marginal and 20 (including two cases of filamentary keratitis) more or less central, the suppurative process was plainly checked, the duration of the

disease shortened, and the cicatricial opacities reduced to a minimum. Two of the cases of interstitial keratitis were uninfluenced, but the other two were improved, the hypopyons were rapidly cured, and the cases of sclerosing keratitis were much improved. The injections are given like subconjunctival injections of saline or other solutions, the air having been sterilised by drawing it into a hypodermic syringe through some sterile cotton wool, or more simply through a needle which has been made red hot in the flame of a spirit lamp. The authors suggest that the action of the injections may be (*a*) purely antiseptic; (*b*) irritative, revulsive and traumatic, exciting the tissues to regeneration by producing a flow of liquids and lymphatic cells towards the injured locality; (*c*) due to stretching of the fine nervous filaments, as suggested by the fact that the injections usually produce immediate relief of pain and photophobia. They consider that the treatment is very useful, either alone or in conjunction with the usual local and general remedies, and it has the double merit of being very simple and always to hand.

R. J. COLLIER.

XIV.—GRAVES'S DISEASE.

(1) **Gradle.** Ocular symptoms of Graves's disease. *Journal of Nervous and Mental Disease*, October, 1905. Vol. XXXII, p. 661.

(2) **Gifford, H.**—On a new symptom in Graves's disease. (Ueber ein neues Augensymptom bei Morbus Basedowii.) *Klin. Monatsbl. f. Augenheilkunde*, September, 1905.

(1) At a joint meeting of the Chicago Medical and Neurological Societies, held on March 29th, 1905, there was a symposium on exophthalmic goître, which was opened by the reading of various papers dealing with the several aspects of the subject. **Gradle** laid stress on the greater importance of the retraction of the upper lid as compared with the protrusion of the eyeball, which sign may be absent when the former is present. Unilaterality of the sight is not excessively rare. Pigmentation of the upper eyelid and pulsation of the retinal arteries are also to be looked for. The proptosis is due in part to increased vascularity, as it always diminishes, and may disappear, after death. The optic nerves are elongated and the orbit contains a greater amount than usual of fat, which infiltrates the ocular muscles. The general concensus of opinion of the members present was strongly in favour of the thyroidectin treatment, the blood of the thyroidectomised goats being more potent than their milk.

E. A. JONES.

(2) **Gifford** describes two early eye-changes in Graves's disease. The upper lid offers an unusual resistance to eversion, and once everted is kept in this position with difficulty. The condition is independent of exophthalmos and of retraction of the upper lid, and due, probably, to irritability of Müller's muscle. The other symptom consists in a certain solid thickening of the skin below the eyebrows. C. MARKUS.

XV.—OPHTHALMIA NEONATORUM IN MEXICO.

Ramos, José.—Ophthalmia neonatorum as a cause of blindness in Mexico: the importance of preventing it by making its dangers known among doctors, midwives, and the public. *Mexican Ophthalmological Society: Anales de Oftalmologia*, May, 1905.

If we take 15,000,000, in round numbers, as the inhabitants of Mexico, there must be, approximately, in her whole vast territory, 15,000 blind persons, a number, which, compared with that of Europe, brings Mexico into the sixth place for her absolute number of blind, coming between Spain with 17,379 cases, and Austria with 11,329. If we calculate the proportion for every 10,000 inhabitants, she occupies the fifth place. In Mexico, the most common cause of blindness is ophthalmia neonatorum, in round numbers 30 per cent., so that of the 15,000 blind in the Republic, 4,500 owe their blindness to this disease.

Ramos proposes to diminish these cases by two kinds of prophylactic or preventive remedies: first, to take care that the birth be made aseptic, and, secondly, in addition to an outward careful cleansing of the eyes, to use for the conjunctiva some well-recommended remedies, as nitrate of silver, protargol, collargol, solution of citric acid, etc., but chiefly by making known to doctors, midwives, and the public the dangers of ophthalmia. For the first two the matter is easy: it is only necessary to instruct them in the clinics thoroughly and practically, and to distribute, now and then, papers on the best modern therapeutic methods. As regards the public, the question is more difficult; it may be divided into two classes, the literate and the illiterate; for the first, distribute small flying leaves in the theatres, public promenades, among the factory girls, in the streets, street cars, etc., and they might be given with trade advertisements to fathers of families, etc. As regards the second class, the illiterate, recourse must be had to women by means of religion, and to the religious meetings called the Conferences of St. Vincent, to the ecclesiastical authorities, to property owners, etc.

To put these ideas in practice, he proposes—and this resolution has been passed by the Mexican Ophthalmological Society—to create a permanent central committee to work on these ideas.

CRUZ Y TRONCOSO.

XVI.—SCLEROSIS CHOROIDEÆ CIRCINATA.

Knapp, Paul.—A rare ophthalmoscopic finding. Ein seltener Augenspiegelbefund. (Sclerosis chorioideæ circinata.) *Klin. Monatsbl. f. Augenheilkunde*, February, 1907.

P. Knapp saw a girl, aged eleven years, suffering from an eye-complaint which, though some of its aspects recalled retinitis circinata, chorio-retinitis luetica, and retinitis pigmentosa, yet differed so much from all these conditions, that it must be considered as an affection *sui generis*. The history of the case revealed nothing beyond the fact that the child's grandparents were first cousins. The fundus changes were the same in both eyes. They consisted in a slight pallor of the disc, which was surrounded by a white haze, narrowing of the retinal arteries, and above all a ring-shaped zone round the macula, in which the retinal pigment was absent, so that the choroidal vessels became visible. The latter appeared normal in the outer half of the ring, but in the inner they were mostly transformed into white bands, as evidence of an extensive sclerosis. Vision was about $\frac{1}{5}$ in the right and $\frac{1}{6}$ in the left eye, but what the patient chiefly complained of was hemeralopia. The visual field showed a concentric contraction and a ring-scotoma corresponding to the choroidal area. The child was otherwise perfectly healthy and in especial exhibited no other vascular changes or increased blood pressure.

C. MARKS.

XVII.—OPHTHALMIA NODOSA.

(1) Valude.—On ophthalmia nodosa. Sur l'ophtalmia nodosa.) *Annales d'oculistique*, T. CXXXIV, p. 40, juillet, 1905.

(2) Salva.—A case of ophthalmia nodosa. (Un cas d'ophthalmia nodosa. *L'Ophtalmologie Provençale*, II, p. 102, septembre, 1905.

(1) **Valude** records a typical case of ophthalmia nodosa, the diagnosis of which was established by the recognition of a caterpillar's hair embedded in the epithelium removed from the diseased spots on the cornea. The patient, who was treated by scraping the diseased areas and by antiseptic dressings, made a satisfactory recovery. R. J. C.

(2) **Salva** reports a case of ophthalmia nodosa, accompanied by deep infection of the uveal tract, causing seclusion of the pupil and secondary glaucoma with marked diminution of vision. In spite of repeated paracentesis, iridectomy (which had previously been refused), became necessary, and was followed by permanent lowering of the tension, while subsequent attacks of cyclitis yielded rapidly to subconjunctival injections of sodium salicylate, leaving the eye with a visual acuity varying between between 0·2 and 0·3. R. J. C.

XVIII.—CYTOTOXINS AND SYMPATHETIC OPHTHALMITIS.

Santucci — Cytotoxins and sympathetic ophthalmia (L'oftalmia simpatica in relazione alla teoria delle citotossine.) *Rivista Ital. de Ottalmologia*, September, 1906.

Santucci thinks that it may be possible to find the cause of sympathetic ophthalmia by the study of the biological reactions of the organism to the injections of poisons, organic and other; after a short account of the various forms of cytotoxin, and the numerous cytolytic sera, which have been prepared, acting on various single organs of the body, Santucci points out that there is nothing inherently improbable in the idea of a cytotoxin for the organ of vision, and that in the appearance of these may lie the cause of the attack of sympathetic ophthalmia.

With this idea, he made three series of experiments on animals. In the first, an eye was enucleated, and the emulsion of this injected under the skin and conjunctiva. In the second series of experiments, the serum of an animal into which such an emulsion had been injected, was used to inoculate another individual of the same species.

In the third series, an eye was badly damaged, and allowed to shrink; it was enucleated some time after, and the emulsion injected under the skin and conjunctiva. In this series, Santucci attempted to reproduce, as nearly as possible, the conditions for development of sympathetic ophthalmia.

In the first series of experiments, after subcutaneous injection, there appeared after three injections a diffuse infiltration of the

cornea, "more marked in the anterior half," intense iritis and three small nodules of whitish exudate in the lower part of the anterior chamber. These gradually disappeared, and the eye returned to normal. Then another injection was made, and the second eye became attacked.

No result followed subconjunctival injection, perhaps because the interval between the injections was too great.

The results of the second series of experiments were also negative.

In the third series of experiments, intense iritis followed the subconjunctival injections.

This last series of results seems to point to the development of an autocytotoxin.

Santucci publishes this account of a short series of experiments, in the hope of arousing interest in his theory. He supposes that in a damaged eye there is always being formed some toxin, which is absorbed by the organism, and gives rise to the formation of an antitoxin. If the amount of toxin is small the organism can deal with it, but if it be large in quantity and the resisting power of the organism is low, an attack of inflammation may be excited in the normal eye. HAROLD GRIMSDALE.

XIX.—SIDEROSIS BULBI.

Kipp, Charles J. Concerning siderosis bulbi. *Trans. Amer. Ophthal. Society*, 1906, p. 132.

The term "siderosis bulbi" appears to have been first employed by Bunge (1890) to indicate a discolouration of the iris and cornea and lens, together with other changes, liable to occur in eyes harbouring fragments of iron. Anatomical examinations of such cases have been made by E. v. Hippel, Bunge, and Bednarski, among other writers. **Kipp** has met with quite a number of cases of siderosis corneæ—where the cornea was stained of a brownish colour for some distance around an embedded fragment of iron, which had lain *in situ* for several weeks. The most striking sign of siderosis, however, consists in the presence of a number of rounded spots, each less than 0·5 mm. in diameter, of a yellowish-brown colour, arranged in a circle in or beneath the capsule of the lens, about midway between the anterior pole and the equator. The lenses which show this singular appearance are for the most part opaque. Kipp now reports at some length one case of this kind, and three where, despite the existence of the spots, the lens had retained its transparency. The

patients were aged 40, 49, and 30 years respectively. In every instance the iron had entered the eyeball at least six months before Kipp saw the patient. Reviewing the recorded cases as a whole, Kipp states that the subcapsular spots are found only in connection with cataract. An ochre colour of adhesions between iris and lens capsule has been mentioned by Hirschberg in siderosis, and Kipp has also observed the same thing, but without attaching any particular value to the appearance. Spontaneous mydriasis has been noticed by Vossius, Mayweg, Wingenroth, and Hirschberg, but the present author has not encountered this symptom. Kipp has seen the cataract of siderosis disappear, leaving the capsule only, especially in young subjects. Torpor of the retina, concentric contraction of the visual field, and defective colour perception have been met with in several of the reported cases of siderosis. Why the rust spots under the capsule of the lens occupy almost invariably the same region is a question to which no satisfactory answer has yet been returned. Samelsohn's view, namely, that the spots represent so many pores in the capsule, can scarcely be correct, since no one has yet demonstrated such pores anatomically. Finally, it may be noted that Natanson observed signs of siderosis as early as two months after a foreign body had entered the eye. The interval, however, is generally longer. S. S.

XX.—OPHTHALMIC THERAPEUTICS.

Brinton, Arthur G. — Recent advances in Ophthalmic Therapeutics. *Transvaal Medical Journal,* December, 1906.

A practical communication by **Brinton** gives useful information on some of the newer ophthalmic remedies, such as stovaine, alypin, dionine, acoine, adrenaline, ichthargan, protargol, and acetozone. In the author's opinion, cocaine as a local anæsthetic still leaves something to be desired, inasmuch as its mydriatic powers may precipitate an attack of acute glaucoma, its toxic effects may sometimes cause patients to faint, and, lastly, if employed for long periods, it may reduce both the nutritive and the resisting powers of the cornea. As substitutes for cocaine, Brinton recommends a 4 per cent. solution of stovaine and, especially, a 2 per cent. solution of alypin. The latter agent, indeed, has completely replaced cocaine in Brinton's work. A solution stronger than 2 per cent. presents no advantages, and may, besides, cause smarting when dropped into the eye. The advantages of alypin are that it has no toxic effects

neither does it cause mydriasis nor paralysis of accommodation, nor swelling of the epithelial cells, such as may follow the use of cocaine. For deep-seated ocular pain (except in cases of glaucoma) the author praises a combination of atropine, 1 per cent., cocaine, 2 per cent., and dionine, 2 per cent. Brinton finds a 2 per cent. solution of euphthalmin useful for securing dilatation of the pupil, with little if any action on the ciliary muscle. With regard to supra-renal extract, that agent is stated by Brinton to be of service in conjunctivitis, phlyctenular keratitis, superficial corneal ulcerations and wounds, and in spring catarrh. It may also be found useful in reducing the tension of an inflamed eye, so as to enable the specific remedy, mydriatic or myotic, as the case may be, to be more readily absorbed. In squint and some other operations it is, of course, a hæmostatic. Brinton prefers of the various preparations of supra-renal extract, the 1 : 2,000 solution adrenalin of Parke, Davis, and Co. It should be freshly prepared every ten days. The two organic preparations of silver preferred by Brinton to the others (and their name is now legion) are ichthargan and protagol. The former he uses in 2·5 per cent. 5 per cent., and 10 per cent. solution, and the latter in a strength of 30 per cent. Ichthargan has yielded good results in trachoma, beginning with the 2·5 per cent. and gradually going to the 10 per cent. solution. Protargol, 30 per cent., is employed by the author during the first few days in cases of gonorrhœal ophthalmia, and, also, for painting purulent ulcers of the cornea. Brinton finds acetozone (½ grain to 1 ounce) a useful germicide for infected conditions. S. S.

XXI.—TREATMENT.

(1) **Del Monte Naples.—Thigenol roche in ocular therapeutics.** Il Thigenol roche in terapia oculare. *Archivio d'Ottalmologia*, Novembre e Dicembre, 1905.

(2) **Chevalier.—Dionine in ophthalmology.** (La Dionine en ophtalmologie.) *L'Ophtalmologie Provinciale*, III, p. 102, octobre, 1906.

(3) **Aubineau.—"Collyrium of eserine in oil" in the treatment of hypopyon.** (Le "Collyre huileux à l'éserine" dans le traitement de l'hypopion.) *L'Ophtalmologie Provinciale*, III, p. 89, September, 1906.

(4) **Chevalier (Mans).—Notes on the treatment of phlyctenular keratitis.** (Ossavazioni sulla cura della Cheratite Flittenulare.) *L'Ophthalmologie Provinciale e La Clinica Oculistica*, Maggio, 1906.

(5) **Bruno** —Eumydrine in ocular therapeutics. (Eumidrina in Terapia Oculare.) *La Clinica Oculistica*, Maggio, 1906.

(1) Thigenol is a dense liquid of a brown colour, inodorous, freely soluble in water, alcohol and æther. It does not stain linen, and, put on the skin, evaporates. Chemically, it corresponds to the sulphonated oil of sodium, a well-defined and stable compound. It is used dissolved in water or in the form of ointment with vaseline and wax, in the strength of 10 to 50 per cent.

Del Monte, experimenting on many cases, has found it to be of great service in dacryocystitis, blepharitis, and in phlyctenular conjunctivitis and keratitis. He concludes his article by saying :—

1. That thigenol is useful in a 10 per cent. solution for irrigating the lacrymal passages after the operation for stricture.

2. That in all kinds of blepharitis, especially the pustular forms, thigenol has a markedly beneficial effect and its action may be considered as specific as regards the forms kept up by epiphora.

3. That thigenol is very efficacious in herpes of the conjunctiva and cornea, especially in the acute forms accompanied by marked irritation and watering.

4. That thigenol in the two last-mentioned diseases is preferable to the red precipitate and the yellow oxide of mercury, because it causes no irritation (on the contrary, it has an analgesic action), it does not easily alter itself in the form of ointment, and, lastly, the presence of corneal ulcers is not a contra-indication to its use. CHARLES MANCHÉ.

(3) **Aubineau** recommends a 1 per cent. solution of eserine in oil for the treatment of severe hypopyon-ulcers when the posterior synechiæ are so strong that there is no chance of their giving way under the influence of atropine. He finds that by causing absorption of the hypopyon they frequently obviate the necessity of performing a paracentesis, and considers that they act by freeing the filtration angle, and by causing contraction of the iridic and ciliary blood vessels and so reducing the quantity of albumin excreted from them. In mild cases, when the pupil can be dilated, he prefers the customary treatment with atropine.

R. J. COULTER.

(4) The following is the treatment for phlyctenular keratitis recommended by **Chevalier** :—1. Occlusive bandage to rest the eye and protect it from infection. 2. Instillation of sulphate of atropine alone or combined with cocaine and adrenaline when there is marked pain, photophobia, and congestion of the conjunctiva. 3. Direct massage of the cornea and conjunctiva or indirect with the eyelids closed, simple or medicated. In the acute stage, however, so long as the phlyctenule is not

broken, the use of massage with the yellow oxide of mercury ointment is not advisable. To clear up the consecutive corneal opacities the author recommends the instillation of the benzoate of lithia, already used by Mazet, of Marseilles. A 4 to 10 per cent. solution may be dropped into the eyes twice daily and its use protracted for a considerable time. Internally, the author recommends the administration of yeast, which has been proved to possess a deleterious action on the staphylococcus found in the phlyctenulæ. The dose of the dry yeast for an adult is gr. xx before each meal, and for a child gr. x given in milk.

CHARLES MANCHE.

5) As is universally known, the most important mydriatic agents at our disposal are, atropine, homatropine, duboisine, daturine, hyoscine, hyoscíamine, scopoleine, scopolamine, hyoscyamine, gelsemine, midrine, midrol, and eumidrine, and the most important myotics: eserine, pilocarpine, muscarine, and arecoline.

Bruno studied the action of eumydrine, prepared by Friedr. Bayer & Co., of Elberfeld, Germany. It corresponds to the methylnitrate of atropine, and its formula is $C_{17}H_{23}NO_3(CH_3NO_3)$. From his experiments and the observation of clinical cases in which he used it, the author concludes that eumydrine is five times less poisonous than atropine, but in equal strength its mydriatic action is slower, less marked, and of a shorter duration than that of atropine. It has no action whatever on the ocular tension. A 1 per cent. solution of eumydrine in the normal eye produces complete dilatation of the pupil, with complete paralysis of accommodation, but its action lasts only 48 hours. Bruno experimented with eserine as well as with pilocarpine and by determining what quantity of eumydrine was neutralized in a certain time by a standard solution of the myotic and comparing the result with that obtained under similar circumstances for atropine, states that the action of atropine is four times as strong as that of eumydrine.

CHARLES MANCHÉ.

XXII.—EYE-STRAIN.

Howe, Lucien.—What are the so-called reflexes which can properly be referred to eye-strain? *Ophthalmology*, January, 1906.

As a result of the careful study of the data obtained from 150 replies to the following note of enquiry: "1. How many, or about how many, cases of diseases of the eye have you recorded

as seen in private, and in hospital or dispensary practice, altogether? 2. Among them all how many have you recorded in which 'eye-strain' can justly be considered in any way a cause of any one of the following diseases or conditions:— Keratitis, iritis, glaucoma, cataract, choroidal diseases, hyperemia of the retina, diseases of the macula in any form, pigmented retinitis, other retinal diseases, sinus diseases, pharyngitis, laryngitis, aphonia, common colds, influenza, pneumonia, tuberculosis, anorexia, denutrition, intestinal fermentation, constipation, disorder of the liver, dyspepsia, loss of appetite, nephritis, cardiac palpitation, chorea, epilepsy, insomnia, scoliosis?" **Howe** has arrived at the following conclusions:— "1. That the personal equation enters largely into these reports. Only comparatively few individuals have seen many such reflexes, while most have observed only a few or none at all. 2. This large experience shows, beyond question, that in the future it will be impossible for any one to repeat the claim that these reflexes or conditions, or any of a similar kind, are considered by most American ophthalmologists to be the result of eye-strain. That is simply the assumption of a few enthusiasts. 3. An important cause of our confusion is the lack of definition of the morbid conditions under discussion, such terms as intestinal fermentation, disorders of the liver, nephritis, etc., having no definite meaning; and 4. Another cause is the lack of exact diagnosis of the condition or the symptom which is suspected to be the result of the eye-strain. One man may call a hyperemia of the retina what another would call normal eye ground."

The author states that "in view of these facts, if we ask, finally, what are the symptoms which can be referred to eye-strain, we can safely include in that list those in the three groups first mentioned, namely, symptoms referred to the eyes, to the head in general, or the stomach. Other morbid conditions may be dependent upon eye-strain, but proof of that is what we need, and not simply the affirmative evidence, but especially the negative evidence—the control observations."

He believes that "when any condition or symptom is stated to be due to eye strain, then, if that condition or symptom is one which even the majority of other practitioners have not also observed, evidently the burden of proof is on the person who makes any such assertion. It is for him to show that a real relation does exist between the eye and that condition or symptom. Also, the more unusual that supposed condition or symptom is, as compared with the very large experience here collected, the more careful, then, must a writer be to make his proof abundant and conclusive."

"He (he says) who does this, in a patient, painstaking manner, renders a distinct service to ophthalmology. He who does not or cannot furnish such proof, simply indulges in statements which are, to say the least, misleading and unscientific."

C. A. O.

XXIII.—MISCELLANEOUS.

(1) Lodato, G.—Recent research into the cervical sympathetic in relation to ocular physio-pathology. (Nuove ricerche sul simpatico cervicale in rapporto allo fisiopatologia oculare.) *Archivio d'Ottalmologia*, Vol. XI, Fasc. 9-10, March-April, 1904.

(2) Joseph, Henry.—Clinical researches into the relationship of primary glaucoma and arterio-sclerosis and renal impermeability. (Recherches cliniques sur le glaucoma primitif dans ses rapports avec l'artériosclérose et l'impérmeabilité rénale.) *Thèse de Paris*, 1904, and *Gaz. des Hôpitaux*, 1904, 23 juillet.

(3) Raymond and Cestan.—Associated paralysis of thelateral movements of the eye. (Paralysie associée des globes oculaires pour la latéralité.) *Société de Neurologie* (Paris), 4 juin, 1903.

(4) Dupuy-Dutemps.—A palpebral phenomenon constant in peripheral facial paralysis. (Un phénomene palpébral constant dans la paralysie faciale périphérique.) *Société d'ophtalmologie*, Paris, 1903.

(5) Wolff, Hugo.—A further note on the photography of the direct image (inverted of the fundus. (Weitere über die Photographie des directen (umgekehrten) Augengrundbildes). *Die Ophth. Klinik*, September, 1906.

(6) Carter, James C.—Instillation of carbolic acid into the eye from a medicine dropper through mistake. *New York Medical Journal*, September 15, 1906.

(7) Wanless, W. J.—Intra-capsular irrigation in cataract extraction. *Indian Medical Gazette*, April, 1906.

(8) Alger, Ellice M.—The purpose of eyeglasses. *Medical News*, March 25th, 1905.

(9) Edridge-Green, F. W.—Two cases of trichromic vision. *Lancet*, May 6th, 1905.

(10) **Ferentinos, Sp.—The laws of the reflection of light. (Ueber die Gesetze der Reflexion des Lichtes.)** *Die Ophth. Klinik*, Oktober 1906.

(11) **Heller, S.—Visual disturbances and the results of educational exercises, especially in a case of retinitic atrophy. (Erfolge von pädagogischen Sehübungen bei Sehstörungen, insbesondere in einem Falle von retinitischer Atrophie.)** *Die Ophth. Klinik*, Oktober, 1906.

(12) **Meyerhof.—On the persistence of infectious agents in conjunctivitis and its rôle in the epidemic conjunctivitides of Egypt. (Sur la persistance des agents infectieux dans la conjonctivite et son rôle dans les conjonctivites épidémiques d'Egypte.)** *Ann. d'oculistique*, T. CXXXVI, p. 368, novembre, 1906.

(13) **Römer, P.—On the invasion of the blood by infective organisms from intra-ocular sources of infection. (Ueber die Aufnahme von Infectionserregern in das Blut bei intraocularen Infectionen.)** Continuation and conclusion. Part IV. *Arch. f. Augenheilk.*, 1906.

(14) **Possek, Rigobert.—Contribution to cases of gangrene of the lid. (Beitrag zur Kasuistik der Lidgangrene.)** *Klin. Monatsbl. f. Augenheilkunde*, Februar, 1907.

(1) This voluminous memoire of **Lodato** gives details of a number of experiments upon dogs and rabbits, and contains among others the following conclusions :—

1st.—An irritated condition of the cervical sympathetic brought on by mechanical means, generally determines a diminution of the quantity of liquid capable of penetrating in the unit of time, with Leber's apparatus, into the ocular globe, under a constant specific pressure.

2nd.—This diminution of the rate of infiltration is more considerable after an irritative lesion ; afterwards it tends to diminish up to the vanishing point, but in some cases it may persist for a relatively lengthened period (more than a month).

3rd.—The irritated condition of the cervical sympathetic produced by mechanical or chemical means determines, in a great majority of cases, an appreciable increase of the intra-ocular tension.

4th.—This increase of tension may be temporary or continuous. As a rule the greater the tension has been (and it may attain a high degree) after the irritative lesion, the more rapidly will it be reduced, because of the fatigue and exhaustion of the nervous elements. On the other hand, the hyper-tension is of a prolonged character when, immediately after the lesion, the symptoms of irritation are less acute.

5th.—The degree of tension may vary from day to day and periods of hypertony may alternate with periods of hypotony.

6th.—Emotion may further increase the intraocular tension.

7th.—A chronic irritated condition of the sympatheticus cervicus, caused by mechanical or chemical means, generally determines a pupillary dilatation of the same side. This dilatation may be permanent, but usually disappears after a certain time and alternates with contraction of the pupil. The duration of the dilatation is less, sometimes quite temporary, when the irritating symptoms have been violent at the moment when the lesion of the ganglion occurred; the dilatation lasts longer when, in the beginning, the symptoms of irritation were slight.

8th.—It is sometimes possible to observe that the pupil of the side which has been operated upon presents a diameter equal to the pupil of the sound eye during a brilliant light, whereas it becomes larger in a reduced light. So it is possible that the pupil of the operated side may contract normally in presence of a consensual luminous excitation, whilst it remains almost or totally motionless under the influence of a direct light.

9th.—There may occur in the eye of the side which has been operated upon, an inversion of the pupillary reflex to the light, and at the same time the normal reflex may be maintained in the other eye.

10th.—Animals which have been submitted to chemical or mechanical excitations of the sympatheticus cervicus, may present remarkable differences in different cases, and even in the same individual from day to day.

11th.—Eserine produces a less rapid and less complete myosis in the pupil dilated by the excitation of the sympatheticus than in the pupil in its normal state. On the other hand, atropine produces a more rapid, more considerable, and more durable mydriasis.

12th.—After experimental injuries to the upper cervical ganglion caused by chemical or mechanical means, one may observe interrupted and variable vasomotor troubles.

A. ANTONELLI.

(2) **Joseph** has found symptoms of arterio-sclerosis in the eighteen cases of primary glaucoma which he has studied clinically. The manifestations of arterio-sclerosis, although varied, fall into two great groups:—(a) those affecting the cardio-vascular apparatus, and (b) those affecting the renal functions. Among the localisations of the first group, the most frequent lesions involved the aortic orifice and the peripheral arteries. Exaggeration of arterial tension was

notable, as shown by sphymographic tracings. Amongst the renal manifestations, permeability was invariably diminished. These facts appear to give to arterio-sclerosis an important part in the ætiology of glaucoma. Of the several factors concerned, it is probable that high arterial tension is one of the most potent factors in the production of glaucoma.

L. GAYARD.

(3) **Raymond** and **Cestan** report a third observation (with *post-mortem* examination), of paralysis of the lateral movements of the eyeball. In all three cases there was present this form of paralysis, unaccompanied by convergent strabismus or facial paralysis, but associated with an alternating, sensory hemiplegia (cutaneous anæsthesia, loss of the stereognostic sense, subjective sensations of formication, articular anæsthesia), and motor disturbances, such as choreo-athetotic movements, unilateral cerebellar staggering, asynergy, and a particular kind of dysarthria. At the autopsy, a solitary tubercle was found involving the fasciculus of the brain, but sparing the pyramidal tract, on the one side, and the nuclei of the III and IX nerves. There was no other lesion

(4) **Dupuy-Dutemps** (working with Cestan) has observed the following phenomenon in every case of peripheral facial paralysis examined during the last four years. Whilst looking down, the upper lid falls at the same time as the eyeball; if, in this position, one tells the patient to close the eyes firmly, one notices the eyelid become markedly raised from its primitive position. This fact, paradoxical as it may seem, is so much the more obvious as the paralysis of the orbicularis is the more complete. An analogous movement, of less extent, is seen as regards the lower lid, which is raised during the occlusion and depressed during looking downwards. The phenomenon may be simply explained by the anatomical ties (aponeurotic expansions) which unite the eyelids, on the one hand, to the corresponding recti muscles, on the other. During the voluntary closure of the eyelids, the globe normally turns upwards. In paralysis of the orbicularis, it carries with it the upper eyelid which it raises, and lowers it when directed downwards. For the same reason, the lower eyelid follows the upward movement of the globe during occlusion, and is depressed when it is carried down. These movements of the eyelids, are besides, physiological, and take place in the normal state even when the eyes are closed. If the eyes are turned alternatively up and down under the closed eyelids, one can clearly see the palpebral edges become raised or lowered at the same time as the eyeball. These accessory and secondary movements

are masked in the normal state by the predominating action of the orbicularis, but they become obvious when that muscle is paralysed. A. DARIER.

(5) **Wolff** is aiming at obtaining photographs without any irritating reflexes. A photograph of the fundus of his own right eye shows that he is making considerable progress in that direction. What is still wanting is better definition.

PERCIVAL J. HAY.

(6) **Carter's** case is most interesting. A young woman from, whose cornea the writer had with the aid of cocaine and a dullspud removed a cinder at noon, saw him six hours later (about twenty-four hours after the original accident) for severe pain and inflammatory reaction. For this condition, a collyrium of five grains of cocaine and ten grains of boric acid to the half-ounce of distilled water was ordered and used several times. Eight hours after the eye wash had been ordered, the patient accidentally dropped four or five drops of pure carbolic acid upon the exposed eyeball, inflicting a burn which in five minutes' time was so bad that Carter "found the lower half of the eyeball perfectly white and the eyeball burned considerably." He immediately used alcohol and a 2 per cent. solution of cocaine and atropine. Both eyes were bandaged, a film of egg being placed between the ball and the lid to prevent adhesions. After the third day a bland ointment was used at each dressing."* It is very gratifying to read the final report. "The patient has now 20/20 vision in the eye and no adhesion between lid and ball, and the eye looks as perfect as it ever did before." C. A. O.

(7) **Wanless**, of Miraz, India, uses a simplified apparatus for washing away cortical matter, made by Down Bros., London, S.E. It is a rubber bulb syringe, made to fit on to McKeown's nozzles by means of a bayonet joint attachment. The bulb is sterilized in formalin solution, and can be used with one hand, enabling one to dispense with an assistant. Wanless does not irrigate in nervous or unsteady patients. The only complication he has seen has been striped corneal opacity from too prolonged syringing. On the other hand, there have been fewer cases of iritis and ciliary irritation, and the visual results have been better since the syringe has been used. The average length of stay in hospital has been reduced by two or three days. H. H.

(10) **Ferentinos** presents his readers with the well-known theoretical (geometrical, etc.) explanations of the reflection of light. PERCIVAL J. HAY.

*It may be of some interest to note a probable influence of the previous use of cocaine in producing a partial loosening of corneal epithelium with an underlying lymph which protected the true cornea from severe burning.—EDITORS.]

(11) **Heller,** who is director of a blind institute in Vienna, shows what wonderful results may be obtained by means of patient and intelligent exercises, even in patients with very low powers of vision. The following is an example of what can be done. The patient was a girl, *ætat* 13 years, who came from Russia. When she arrived she could count fingers at one meter. The fields of vision were so small, that they could not be marked on a chart. There was very considerable nystagmus. The optic nerves were reddish-grey; the vessels appeared very small. There were no gross pathological changes visible. After a year's training the girl, who had to learn German first, could read with her eyes Jäger 6 and music notes; she could write German and Russian, could draw, distinguish colours, forms and figures, estimate dimensions, describe and localise objects seen, could walk about freely. The fields of vision could now be measured, although still very small. Heller gives an outline of his methods and appeals to medical men and to teachers to pay more attention to visual exercises. PERCIVAL J. HAY.

(12) **Meyerhof** has studied the outbreaks of conjunctivitis which occur every spring and summer in Egypt, and has formed the following conclusions with regard to them: (1) Koch-Weeks' conjunctivitis is endemic in Egypt, remaining latent in the winter and recrudescing each summer. The outbreak is not influenced by dust or damp, but is due to the action of heat on bacilli which have survived the winter in the conjunctival sac. Infection may be carried by flies, but usually takes place by contact. (2) The epidemic of gonococcal conjunctivitis is less extensive and does not occur before June. It may be caused, like the Koch-Weeks' epidemic, by cocci, which have remained inactive for several months, but there are probably also a considerable number of fresh infections. (3) Conjunctivitis caused by the Morax-Axenfeld diplobacillus almost always accompanies trachoma in Egypt; it has a very pronounced chronic and endemic character. (4) Treatment of the Egyptian population should be carried on energetically during the winter, with a view to diminishing the extent of the summer outbreaks of conjunctivitis. R. J. C.

(13) In this, the last, part of **Römer's** most interesting and valuable paper, the author describes experiments with protozoe, especially Trypanosoma Brucés, in which he found that these organisms readily found their way from the eye into the general circulation.

He then sums up as follows:—

(1) Up to the present time not a single micro-organism has been proved to fulfil the conditions of the migration hypothesis.

(2) The optic nerves do not form the line of infection; the laws applicable to organismal invasion of the blood also apply to intra-ocular infections.

(3) By means of the latter mode of infection a number of organisms find their way into the second eye.

In conclusion Römer refutes various objections offered to his theory by Deutschmann, Leber and others.

PERCIVAL J. HAY.

(14) **Possek** saw two cases of acute inflammation of the upper lid followed by sloughing which necessitated blepharoplasty. In each case there was complete absence of an external lesion, so that the affection must be considered as metastatic. In the first observation a woman, aged 28, suffered from a feverish cold and severe headache; this was followed after two days by an acute inflammation of the right upper lid and the regionary lymph glands. Repeated incisions of the swollen lid, which became partly necrotic, produced no pus. The bacteriological examination demonstrated staphylococcus aureus in pure culture. In the second case, a man, aged 38, suffered from influenza complicated by a tenonitis of the right eye; it was slightly prominent, its movements impaired and painful, the conjunctiva bulbi chemotic. The tenonitis disappeared completely in the course of a few days. The patient returned two months later with a sloughing inflammation of the right upper lid; no bacteriological examination was made in this case. C. MARKUS.

REVIEWS.

Ulceration of the Cornea. By ANGUS MACNAB, M.B., etc. London: Baillière, Tindall, and Cox 1907. 187 pages. Illustrated. Price 5s. net.

In this work the author seeks to put into better form the sum of our knowledge regarding the subject of ulceration of the cornea, and, perhaps principally, to insist upon the classification of such lesions, so far as is possible, according to the results of bacteriological examination.

He has gauged the time for the appearance of his book correctly enough, as there is now a sufficiency of evidence to show, clearly and distinctly, the fact that certain kinds of ulcer of the cornea are caused, in the majority of instances, at all events, by certain well-recognised micro-organisms.

He gives a clinical description of each of these groups of ulcers, pointing out the characteristic features of all; and, having

described the organisms belonging to the various kinds of ulcer, passes on to define the treatment which experience has shown to be appropriate to each.

The book is "got up" in nice form and is furnished with a very comprehensive index, and, generally speaking, the author is to be congratulated upon the thorough manner in which his subject is dealt with and also upon the amount of information contained in the work.

There are, however, here and there, blemishes of style and small faults in execution which, doubtless, will be corrected in a second edition. We would point out a few instances. On page 59, top line, it is stated that "the ulcer cleaned and healed up, with the great advantage of a very thin and almost transparent nebula corneæ."

Obviously, even a "very thin and almost transparent nebula corneæ" is not an advantage. Again, it is a pity to see such well-known names as those of Priestley Smith and Uhthoff wrongly spelled, and we note, also, that the description of the lamp designed by the former is erroneous, in that, as the diagram shows, the lamp is not fitted with a reflector.

In several places needless repetitions occur. In at least one place there is a contradiction, namely, on page 136, line 15, where it is stated that "in both conditions the conjunctiva is sterile or contains only indifferent organisms on its surface," referring to keratitis eczematosa and parenchymatosa, whereas on page 139, line 6, it is stated, in the same connection, that "we have to deal with a septic conjunctiva." On page 81, line 4 from the foot, the statement is made that "this area seems sunken," etc., whereas, in the majority of cases, if we mistake not, the area of mycotic infiltration is raised. Among minor errors, we would point to the spelling "mucocœle," and enquire why the old version is rejected.

Whilst pointing out these various small defects, we would say that, in spite of them, MacNab's book is well worthy of perusal, and should be of service in bringing about the establishment of a surer and more correct foundation for the classification of corneal ulcers.

LESLIE BUCHANAN.

Eléments d'Ophtalmologie. Par DR. ROHMER, Professeur d'Ophtalmologie à la Faculté de Médécine de Nancy. Paris: G. Steinheil, 2, Rue Casimir-Delavigne. 1907. Prix, 6 francs.

In the comparatively brief compass of 584 small pages (illustrated by 67 text figures) Dr. Rohmer, of Nancy, has endeavoured to give students and practitioners details of the more important diseases of the eye, to say nothing of emergency operations and

of the subject of refraction. Throughout the interesting pages of the book greater attention is paid to broad principle than to petty detail. It begins with chapters on the methods of examination, and the remedies employed in ophthalmology. With regard to general anæsthesia, the author considers that bromide of ethyl has certain advantages over chloroform, and he employs the first-named agent in short operations on the eye. He has found preliminary injections of scopolamine and morphine advantageous before chloroform is administered. Rohmer considers that cocaine, used in moderation and with intelligence, still retains its place as our best and most practical local anæsthetic. For disinfecting the field of operation the author employs mercury oxycyanide, 1 : 1,000, and for sterilising hands and instruments, formol, 1 : 1,000. The advice to cleanse the eyelids and neighbouring parts by means of cotton-wool impregnated with soap and steeped in the cyanide lotion, however, appears to be an unscientific refinement, since the antiseptic surely would no longer exert its characteristic powers in the presence of soap. An ignorance of this fact might engender a sense of false security. Instruments, according to Rohmer, are to be disinfected by being plunged for some seconds in the formol. The directions for the proper carrying-out of this important process might well be more precise in a book intended, as this is, for beginners. In the treatment of ulcers and wounds of the cornea, Rohmer has found peroxide of zinc and bitartrate of potassium preferable to iodoform, but the pain caused by the application of either of the agents named to the cornea should be mitigated by the previous use of cocaine. The emergency operations on the eye, very briefly described by the author, are five in number, namely, extraction of foreign bodies from the cornea, excision of prolapsed iris, conjunctival suture, probing of the lacrymal passages, and subconjunctival injections. Rohmer employs subconjunctival injections of the oxycyanide of mercury (never of sublimate) in the treatment of such conditions as commencing suppuration of the eyeball, early choroiditis, iritis, scleritis, and in sympathetic ophthalmitis—after removal of the exciting eye. A good account is given of the manifold uses of the conjunctival suture in penetrating wounds of the sclera and cornea. It is sometimes forgotten that the covering of these wounds, especially when complicated with an entanglement of the iris, with the conjunctiva, affords perhaps the best protection against remote invasion with pathogenic micro-organisms. It is rather surprising that Rohmer's useful book has nothing to say on two such important subjects as cataract and squint. SYDNEY STEPHENSON.

NOTES AND ECHOES.

Obituary.

XAVIER GALEZOWSKI, one of the old guard, died on March 22nd last, in his seventy-sixth year, in Paris. He was born in Lipowice, in Poland, and commenced his medical studies at St. Petersburg, where he took the degree of M.D. in the year 1858. He then proceeded to Paris, received his degree from the Medical Faculty, worked with Trousseau, and devoted himself to eye-work at first in the capacity of *chef-de-clinique* to Desmarres. His fame soon spread far beyond Paris, and eventually became European. For years his clinique in the Rue Dauphine enjoyed great favour amongst the English and American medical visitors to Paris. Galezowski's skill with the ophthalmoscope was little short of marvellous, while his operations were distinguished by originality of conception and facility of execution. Galezowski served his adopted country in the war of 1870 and became a naturalised French citizen at its close. He was created a *professeur libre* in the Paris School of Medicine, a title now practically obsolete. Galezowski married the daughter of the celebrated singer Tamberlick. The deceased edited and founded the well-known *Recueil d'Ophtalmologie*. THE OPHTHALMOSCOPE tenders its condolences to Dr. Jean Galezowski, who is following in his distinguished father's footsteps as an ophthalmologist, and to his son-in-law, Dr. Ardichir Khan Nazare-Aga, First Secretary to the Persian Legation in Paris.

We deplore the death of Dr. O. Belt, professor of ophthalmology and otology in the Howard University, U.S.A.

* * * *

Appointments.

DR. VANDERSTRAETEN has been appointed professor of ophthalmology in the University of Louvain, Belgium, in succession to the late Dr. E. Vennemann. Dr. C. A. Wood, professor in the College of Physicians and Surgeons, Chicago, has been appointed professor of ophthalmology in the Medical School attached to the North-West University. Dr Ovio has been nominated director of the University eye-clinique at Modena. Dr. Bruckner has been appointed *privat-docent* at Würzburg.

* * * *

The Amir of Afghanistan.

BEFORE the Amir's return to Afghanistan, so we gather from the daily press, he underwent a long ophthalmic examination at the hands of Majors Maynard and Bird, of the Indian Medical Service. Major Maynard, who is a professor of ophthalmic surgery, was specially summoned from Calcutta for the consultation.

* * * *

The late Mr. Charles J. Oldham.

THE late Mr. C. J. Oldham, whose death was reported in a recent number of THE OPHTHALMOSCOPE, left estate of the gross value of £77,959. He left large bequests to education, including £10,000 to Corpus Christi College, Oxford, £5,000 each to the Universities of Oxford and Cambridge, £3,000 to the Manchester Grammar School, and £1,500 each to six hospitals and societies.

* * * *

The Royal Hospital, Richmond.

ON April 15th last the new Benjamin Bousfield Swan Memorial Ophthalmic wing of the Royal Hospital, Richmond, Surrey, was opened by the Prince and Princess of Wales. The new wing, it may be explained, has been built and endowed by Mrs. Swan, in memory of her late husband. The Princess received purses towards the maintainence fund of the new wing.

* * * *

Convalescent Home for the Blind Poor.

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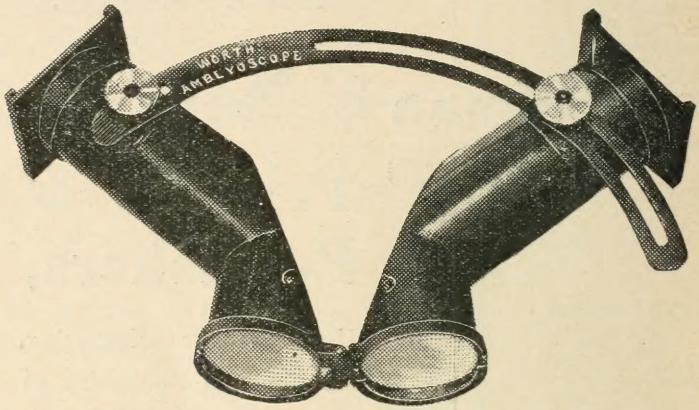

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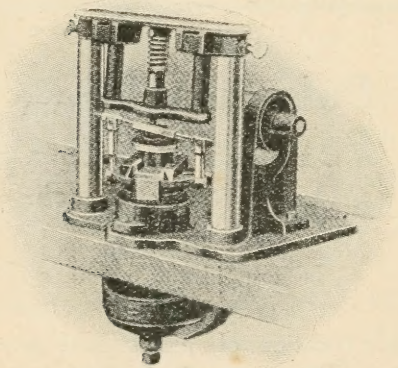

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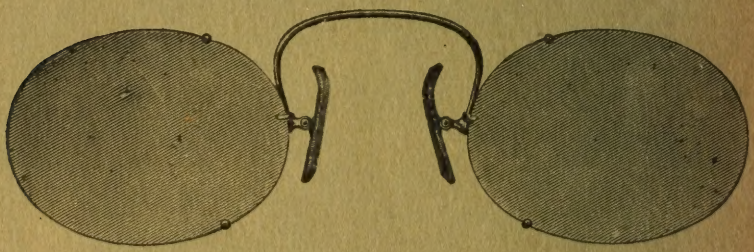

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